

No. 15-1827

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

B.E. TECHNOLOGY, L.L.C.,

Appellant,

v.

GOOGLE, INC., MATCH.COM LLC,
PEOPLE MEDIA, INC.

Appellees.

On Appeal From the United States Patent and Trademark Office
Before The Patent Trial and Appeal Board
Case IPR2014-00038
Case IPR2014-00699

APPELLANT'S OPENING BRIEF

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TABLE OF CONTENTS

	Page
CERTIFICATE OF INTEREST	1
STATEMENT OF RELATED CASES	2
JURISDICTIONAL STATEMENT	3
STATEMENT OF THE ISSUES.....	3
STATEMENT OF THE CASE.....	4
STATEMENT OF FACTS	5
SUMMARY OF THE ARGUMENT	9
STANDARD OF REVIEW	13
I. LOGAN DOES NOT DISCLOSE “SELECTING ADVERTISING CONTENT FOR TRANSFER TO THE COMPUTER IN ACCORDANCE WITH THE DEMOGRAPHIC INFORMATION.”	14
A. Logan Uses Demographic Information To Reorder And Prioritize Previously Selected Advertisements	15
B. The Board Offered No Support For Its Conclusion That Logan Uses Demographic Information To Select Advertisements For Transfer.....	17
II. LOGAN DOES NOT MEET THE “UNIQUE IDENTIFIER” LIMITATION OF CLAIM 11	22
A. The Logan “AccountNo” Does Not “Uniquely Identify Information Sent From the Computer	22
1. The Logan AccountNo Does Not Uniquely Identify “Information Sent.....	22
2. Claim 11 Requires An Identifier That “uniquely identifies information sent	25

III.	THE BOARD IGNORED INTRINSIC EVIDENCE WHEN IT UNREASONABLY BROADENED THE CONSTRUCTION OF THE LIMITATION “PROVIDING A UNIQUE IDENTIFIER TO THE COMPUTER”	29
A.	Logan Does Not Teach A Server Providing A Unique Identifier To The Computer	32
IV.	CLAIM 15 IS NOT INVALID FOR OBVIOUSNESS OVER LOGAN AND ROBINSON	33
A.	One Of Ordinary Skill In The Art Would Not Be Motivated To Combine Logan and Robinson.....	34
V.	THE BOARD SHOULD NOT HAVE DENIED B.E.’S MOTION TO AMEND.....	35
A.	B.E.’s Motion to Amend Did Not Introduced Terms That Required Construction.....	35
B.	B.E.’s Written Description Support for its Amended Claim Was Adequate.....	36
VI.	THE BROADEST REASONABLE INTERPRETATION STANDARD SHOULD NOT APPLY IN INTER PARTES REVIEW PROCEEDINGS	40
VII.	CONCLUSION.....	42

TABLE OF AUTHORITIES

	Page(s)
Federal Cases	
<i>CFMT, Inc. v. Yieldup Int'l Corp.</i> , 349 F.3d 1333, 1342 (Fed. Cir. 2003)	33
<i>Cooper Techs. Co. v. Dudas</i> , 536 F.3d 1330 (Fed. Cir. 2008).....	41
<i>In re Cortright</i> , 165 F.3d 1353 (Fed.Cir.1999).....	31
<i>Lacavera v. Dudas</i> , 441 F.3d 1380 (Fed. Cir. 2006).....	41
<i>Markman v. Westview Instruments, Inc.</i> , 52 F.3d 967 (Fed. Cir. 1995) <i>aff'd</i> , 517 U.S. 370 (1996)	29
<i>Microsoft Corp. v. Proxyconn, Inc.</i> , 789 F.3d 1292 (Fed. Cir. 2015).....	30
<i>In re Cuozzo Speed Techs., LLC</i> , 793 F.3d 1268 (Fed. Cir. 2015).....	40
<i>In re NTP, Inc.</i> , 654 F.3d 1279 (Fed.Cir.2011).....	31
<i>Int'l Flavors & Fragrances Inc. v. The United States of America</i> , <i>As Represented By The Secretary Of Agriculture</i> , 2014 WL 2120542 (May 20, 2014)	36
<i>Phillips v. AWH Corp.</i> , 415 F.3d 1303 (Fed. Cir. 2005).....	30
<i>In re Skvorecz</i> , 580 F.3d 1262 (Fed. Cir. 2009).....	31
<i>In re Suitco Surface, Inc.</i> , 603 F.3d 1255 (Fed. Cir. 2010).....	31
<i>Tafas v. Doll</i> , 559 F.3d 1345 (Fed. Cir. 2009).....	41

Federal Statutes

35 U.S.C. § 2(b)(2)	41
35 U.S.C. § 2(b)(2)(A).....	41
35 U.S.C. § 326	41
35 U.S.C. § 316	41

Regulations

37 C.F.R. § 42.121(b)	40
-----------------------------	----

Other Authorities

H.R. Rep. No. 112-98, pt. 1	42
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CERTIFICATE OF INTEREST

Counsel for Appellant B.E. Technology, L.L.C. ("B.E.") certifies the following:

1. The full name of every party or amicus represented by me is:

B.E. Technology, L.L.C.
2. The name of the real party in interest represented by me is:

N/A
3. All parent corporations and any publicly held companies that own 10 percent or more of the stock of the party or amicus curiae represented by me are:

N/A
4. The names of all law firms and the partners or associates that appeared for the party or amicus now represented by me in the trial court or agency or are expected to appear in this court are:

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STATEMENT OF RELATED CASES

U.S. Patent No. 6,628,314 (“’314”) is the subject to the following appeals pending before this Court: *B.E. Technology, L.L.C. v. Microsoft Corporation and Google, Inc.*, No. 15-1828; *B.E. Technology, L.L.C. v. Facebook, Inc., Google, Inc., Match.com LLC, and People Media, Inc.*, No. 15-1829.

The ’314 patent is also the subject to several district court cases, the related proceedings being: *B.E. Tech., L.L.C. v. Google, Inc.*, No. 2:12-cv-02830 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Microsoft Corp.*, No. 2:12-cv-02829 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Facebook, Inc.*, No. 2:12-cv-02769 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. LinkedIn Corp.*, No. 2:12-cv-02772 JMP tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Groupon, Inc.*, No. 2:12-cv-02781 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Pandora Media, Inc.*, No. 2:12-cv-02782 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Twitter, Inc.*, No. 2:12-cv-02783 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Apple, Inc.*, No. 2:12-cv-02831 JMP tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. People Media, Inc.*, No. 2:12-cv-02833 JPM tmp (W.D. Tenn.); *B.E. Tech., L.L.C. v. Match.com, LLC*, No. 2:12-cv-02834 JPM tmp (W. D. Tenn.).

B.E. is aware of no other related cases.

JURISDICTIONAL STATEMENT

The Patent Trial and Appeal Board (“PTAB” or “Board”) had jurisdiction over Google Inc.’s (“Google”) petition under 35 U.S.C. § 6. Google filed a petition for *inter partes* review of U.S. Patent No. 6,628,314. A35. The Board issued a final written decision on March 31, 2015. A1. A28. B.E. timely filed its notice of appeal on June 2, 2015. 35 U.S.C. § 329. This Court has jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

STATEMENT OF THE ISSUES

Whether Google proved claims 11-13, 18, and 20 of U.S. Patent No. 6,628,314 are anticipated by U.S. Patent 5,721,827 (“Logan”).

Whether Google proved claim 15 of U.S. Patent No. 6,628,314 would have been obvious over the combination of Logan and U.S. Patent No. 5,918,014 (“Robinson”).

Whether the Patent Trial and Appeal Board abused its discretion by requiring construction of a term not reasonably subject to dispute and by imposing an improper written description standard in denying B.E.’s motion to amend.

Whether the use of the “broadest reasonable interpretation” standard for construing the claims of a patent subject to *inter partes* review is proper under 35 U.S.C. §§ 326 and 316.

STATEMENT OF THE CASE

On October 8, 2013, Google filed a petition requesting *inter partes* review of claims 11-13, 15, 18, and 20 of the '314 patent, alleging four different grounds of anticipation and obviousness. A47-48. B.E. did not file a preliminary response to the petition. On April 9, 2014, the Board instituted *inter partes* review on two of the asserted grounds:

On the theory that claims 11-13, 18, and 20 are anticipated by U.S. Patent No. 5,721,827 (“Logan”), and

On the theory that claim 15 would have been obvious over a combination of Logan and U.S. Patent No. 5,918,014 (“Robinson”). A1089.

After institution, Petitioners/Appellees Match.com LLC (“Match”) and People Media, Inc. (“People Media”) filed a petition and motion to join the proceeding. A2. The joinder motion was granted. *Id.*

B.E. filed a patent owner response, accompanied by a declaration of expert witness Neal Goldstein, and Google replied. B.E. also filed a contingent motion to amend Claim 11 of the '314 patent. B.E.’s motion was opposed.

An oral hearing was held on December 10, 2014. On March 31, 2015, the Board issued final written decision, in which it determined that Petitioner had shown by the preponderance of the evidence that claims 11-13, 15, 18, and 20 of

the '314 patent are unpatentable on each of the grounds on which trial was instituted, and denied B.E.'s contingent motion to amend. A27-28.

STATEMENT OF FACTS

The '314 patent discloses a method of providing demographically-targeted advertising to a computer user. *See* A130. Claim 11 (“A method of providing demographically-targeted advertising to a computer user, comprising the steps of: . . .”); A122 (5:8-10) (“In accordance with another aspect of the invention, a method is provided for supplying demographically-targeted advertising to a computer user.”). The patent recognized that the internet presents a vast new advertising medium with “significant advantages for advertisers,” including that advertisements can be targeted “demographically or reactively.” A120 (1:44-50). But acquiring information from consumers that could be used in specially targeting advertising presented challenges due to privacy-related concerns. Access to demographic information and information about computer usage appeared more likely. “[S]tudies have shown that while people are concerned about privacy issues, and, in particular, do not wish to provide specific information that identifies them (such as their name, address, or Social Security number), they generally do not mind providing demographic information, nor do they mind monitoring of their computer usage as long as their usage is not associated with any specific information that could be used to identify them.” A120 (2:41-48). There also

were limits to the type of usage information that could be collected. *See* A121 (3:11-14) (“One of the disadvantages of prior art systems that acquire data regarding an end-user’s computer usage is that they are generally limited to gathering information concerning only certain limited uses of the computer.”); *id.*, (3:20-22) (“By limiting the reported data in this manner, it is difficult to develop accurate profiles for the individual users that are useful in targeting advertising.”). The ’314 patent claims an improvement over the prior art methods by providing an anonymous system that permits the targeting of advertising based upon collected demographic information, and provides for the collection of computer usage information, and the association of that information with the demographic information using a unique identifier.

The method of independent Claim 11 includes several steps relating to the collection, storage, and usage of demographic information and computer usage information.

11. A method of providing demographically-targeted advertising to a computer user, comprising the steps of:

- providing a server that is accessible via a computer network,
- permitting a computer user to access said server via said computer network,
- acquiring demographic information about the user, said demographic information including information specifically provided by the user in response to a request for said demographic information,

providing the user with download access to computer software that, when run on a computer, displays advertising content, records computer usage information concerning the user's utilization of the computer, and periodically requests additional advertising content,

transferring a copy of said software to the computer in response to a download request by the user,

providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server,

associating said unique identifier with demographic information in a database,

selecting advertising content for transfer to the computer in accordance with the demographic information associated with said unique identifier;

transferring said advertising content from said server to the computer for display by said program,

periodically acquiring said unique identifier and said computer usage information recorded by said software from the computer via said computer network, and

associating said computer usage information with said demographic information using said unique identifier.

A130-131.

Google alleged that Claims 11-13, 18, and 20 of the '314 patent are unpatentable as anticipated by Logan. A56. Google also alleged that Claim 15 was unpatentable as obvious over the combination of Logan and Robinson. A103. Logan teaches a method "for selectively distributing personalized information and entertainment programming to subscribers." A140 (1:7-9). Robinson discloses a

system for “the display of advertising to users of an interactive communications medium.” A167 (1:12-13).

The Board instituted trial on each of the above grounds. In its final written decision, the Board, using the “broadest reasonable interpretation” standard, construed the claim limitation “providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server” to mean “any system, process, or entity that provides a unique identifier to the computer, where the unique identifier identifies any information that is sent over the computer network.” A8-9.

The Board determined that Google demonstrated by a preponderance of the evidence that claims 11-13, 18, and 20 are anticipated by Logan, and claim 15 would have been obvious over a combination of Logan and Robinson. A27.

The Board also considered and rejected B.E.’s contingent motion to amend. *Id.* B.E.’s proposed substitute Claim 23 corresponded to original independent Claim 11 with the additional limitations that advertising content be selected for transfer to the computer in accordance with real-time and other computer usage information and demographic information associated with said unique identifier, and that the computer usage information comprise information about the user’s interactions with said computer software displaying advertising content and at least one other program. A24-25. Proposed substitute Claims 24-34 corresponded to

original dependent Claims 12-22 and did not include any amendments other than being renumbered to depend from proposed substitute Claim 23. A25.

The Board did not make a substantive evaluation of the amendment. Instead, it denied the amendment on the basis that a proposed construction was not provided for new claim terms. The Board also held that B.E. did not provide adequate, “readily discernible” written description support for proposed substitute Claim 23. A26-27.

SUMMARY OF THE ARGUMENT

The Board’s determination that Claims 11-13, 18, and 20 of the ’314 patent are anticipated by Logan is the result of a misinterpretation of both the ’314 patent and Logan. First, the Board wrongly concluded that Logan uses demographic information for the “selection of advertising content for transfer to the computer.” The Board cited no instance of the use of demographic information to select advertisements for download. The only detailed discussion of the issue contained an explicit finding that Logan uses demographic information to reorder (“prioritize”) previously selected advertisements. Reordering or prioritizing advertisements that were previously selected for transfer using non-demographic means does not meet the limitation of “selecting advertising content for transfer to the computer in accordance with the demographic information.”

Second, the Board construed the “unique identifier” limitation in a manner contrary to the unambiguous language of Claim 11. Claim 11 requires “providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server.” As plainly stated, the identifier uniquely identifies information “sent . . . from the computer.” The Board ignored the actual claim language and found a user identifier – incapable of “uniquely identifying information sent . . . from the computer” – to satisfy the limitation. A computer identifier is more likely than a user identifier to be able to “uniquely identify information sent . . . from the computer,” but the requirement of the claim language is clear, and B.E. never departed from the language of Claim 11.

The Board’s analysis did not include consideration of the central requirement that the identifier “**uniquely**” “identify information sent . . . from the computer.” The Board’s discussion of the issue did not even mention the word “uniquely” or devote any attention to the requirement that the identifier “**uniquely**” “identify information sent . . . from the computer.

Third, the Board erred in its construction of “providing a unique identifier to the computer” by disregarding explicit guidance provided by the ’314 specification showing that the unique identifier is provided by a server “to the computer.” Logan does not meet the “unique identifier” limitation for the additional reason

that it does not disclose that the “unique identifier” is “provided” to the computer by the server.

Dependent Claims 12, 13, 15, 18, and 20 are patentable for the same reasons that Claim 11 is patentable. Claim 15 is also patentable over the proposed combination of Logan and Robinson because no reason existed to combine the two references. There is no evidence that Robinson would have solved any problem or improved any function of Logan, or that a person having ordinary skill would have been motivated to add a cookie to the Logan system.

B.E. satisfied all of the procedural and substantive requirements for a motion to amend. None of the new terms of substitute Claim 23 would reasonably be subject to dispute. The terms identified by the Board as requiring construction do not.

The Board applied an arbitrary standard in its determination that B.E. did not satisfy the written description requirement. B.E. clearly identified the written description support for each proposed claim substitute, and it did so in a manner identical in form to that employed in the only case in which the Board had allowed an amendment as of the date on which B.E.’s motion was filed. B.E.’s disclosure of written description support was sufficient and presented in a manner compliant with 37 C.F.R. § 42.121(b). The Board’s apparent additional requirement that support be “readily discernible” is insufficiently precise to provide meaningful

guidance, and further cannot be justified if it requires something more than the disclosure required to support a claim. Given that the process of identifying written description support necessarily requires citation to the application, a patent owner can do no more than cite the language of the application. There is only one legal standard that guides the determination of whether a claim finds support in the specification, and the Board exceeds its power when it imposes an additional burden on patent owners.

The approach taken by the Board in addressing B.E.'s motion to amend is especially disturbing in light of the Board's use of the "broadest reasonable interpretation" standard when assessing the patentability of the challenged claims. A principal justification for the use of this standard is the idea that a patent owner has the opportunity to amend claims during *inter partes* review. A simple review of the available statistical information shows this not to be true. The approach taken by the Board in this case further demonstrates the absence of a realistic opportunity for amendment.

The broadest reasonable interpretation standard should not apply in *inter partes* review proceedings. A panel of this Court upheld the Board's use of the broadest reasonable interpretation standard in *In re Cuozzo Speed Techs., LLC*, 793 F.3d 1268 (2-1 decision), *reh'g en banc denied*, 793 F.3d 1297 (Fed. Cir. 2015) (6-5 decision). B.E. wishes to preserve the right to challenge the Board's use of the

broadest reasonable interpretation standard should *certiorari* be granted and *In re Cuozzo* overturned, or *Cuozzo* otherwise no longer govern *inter partes* reviews.

STANDARD OF REVIEW.

The Board's legal conclusions (including as to claim construction) and statutory interpretation are reviewed de novo. *Belkin International, Inc. v. Kappos*, 696 F.3d 1379, 1381 (Fed. Cir. 2012). A "clear error" standard applies in the review of subsidiary factual determinations made in the course of claim construction. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 835 (2015); *see In re Cuozzo*, 793 F.3d at 1279-80 (applying the *Teva* standard in reviewing an *inter partes* review decision). The Board's interpretation of PTO regulations is entitled to substantial deference, unless the interpretation is "plainly erroneous or inconsistent with the regulation." *In re Garner*, 508 F.3d 1376, 1378 (Fed. Cir. 2007). The Board's determination of anticipation is a question of fact reviewed for substantial evidence. *In re Morsa*, 713 F.3d 104, 109 (Fed. Cir. 2013). Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. N.L.R.B.*, 305 U.S. 197, 229 (1938). The Board's ultimate conclusion of obviousness is reviewed de novo and the underlying factual findings for substantial evidence. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). The "existence of a reason for a person of ordinary skill to combine references" is a question of fact. *In re Constr. Equip. Co.*, 665

F.3d 1254, 1255 (Fed. Cir. 2011). Actions of the Board that are “arbitrary, capricious, an abuse of discretion, unsupported by substantial evidence, or otherwise not in accordance with law” will be set aside. *In re Sullivan*, 362 F.3d 1324, 1326 (Fed. Cir. 2004); 5 U.S.C. § 706(2)(A).

I. LOGAN DOES NOT DISCLOSE “SELECTING ADVERTISING CONTENT FOR TRANSFER TO THE COMPUTER IN ACCORDANCE WITH THE DEMOGRAPHIC INFORMATION.”

The ’314 patent claims a method of providing demographically-targeted advertising. *See* A130-131, Claim 11 (“A method of providing demographically targeted advertising to a computer user, comprising the steps of: . . .”). The method of independent Claim 11 includes several steps relating to the collection, storage, and usage of demographic information. *See* A130 (22:47-50) (“[A]cquiring demographic information about the user, said demographic information including information specifically provided by the user in response to a request for said demographic information.”); *id.* (22:63-64) (“[A]ssociating said unique identifier with demographic information in a database.”); *id.* (22:65-67) (“[S]electing advertising content for transfer to the computer in accordance with the demographic information associated with said unique identifier.”); A131 (23:6-7) (“[A]ssociating said computer usage information with said demographic information using said unique identifier.”). Demographic information is

unambiguously used to select the advertising content for transfer, rather than for any post-selection purpose.

The Logan patent discloses a method that utilizes demographic information, but Logan does not use demographic information to “select advertising content for transfer.” Instead, Logan prioritizes previously selected advertisement program segments after “program segments have been scheduled or selected for inclusion into Schedule Table 307,” as the Board found. A20 (citing A150 (25:15-20)).

A. Logan Uses Demographic Information To Reorder And Prioritize Previously Selected Advertisements.

The Board agreed with B.E. that the key language of Logan shows prioritization of previously selected advertisements, rather than the selection of advertising content for transfer in accordance with demographic information.

We further agree with Petitioner *that once program segments have been scheduled or selected* for inclusion into Schedule Table 307, *the DemographicMatch and DemographicWeight functions prioritize the advertisements* based on the calculated weight. Logan discloses that the ‘advertisements are then preferably inserted into the programming Sequence with the advertisement having the highest weight being scheduled to occur first in the sequence, thereby insuring that the best fitting advertisements are included in the programming.’ That is, *the sequence of the schedule is reordered* such that the advertisements determined to be the ‘best fitting advertisements’ are scheduled or selected to occur first.

A20 (citing A152 (25:15-25); A1669-70) (emphasis added). Logan’s

DemographicMatch function is a “prioritization function,” not a selection function.

After “program segments have been scheduled or selected for inclusion into Schedule Table 307,” they are “prioritized” using the DemographicMatch and DemographicWeight functions. Prioritizing already selected advertisements does not satisfy “selecting advertising content for transfer to the computer in accordance with the demographic information.”

The Board did not find, and nothing in the record suggests, that Logan’s targeted advertising method uses demographics outside of the DemographicMatch and DemographicWeight functions. The Board properly characterized these functions as “prioritization functions” that “prioritize the advertisements” that “have been scheduled or selected.” Therefore, Logan uses demographics in a manner distinct from the ’314 patent, and does not meet the limitation of “selecting advertising content for transfer to the computer in accordance with the demographic information.”

Although the Board found the use of the DemographicMatch and DemographicWeight functions to involve “prioritization,” and to follow the selection of advertisements for download, the Board nevertheless found the “selecting” limitation to be satisfied. The Board did so by characterizing the prioritization of already selected advertisements as a “reordering or reselection of the sequence of scheduled program segments.” A20 (citing A1669-70).

This tour de force is not consistent with the language of Claim 11. As the Board acknowledged, the “reordering” involves “scheduled program segments.” To be “scheduled,” the advertising program segments had to be “selected.” When they are “reordered,” they are not “selected,” as the advertisements of Claim 11 must be.

Nor is it fair to portray the prioritization found by the Board to be a “reselection.” The program segments were “selected” before they were “prioritized.” The queue could not be ordered before it is created. It is wrong to call the prioritization disclosed by Logan a “reselection,” but even if the use of that terminology does not do violence to Logan, the “reselection” is not a “selection of advertising content for transfer to the computer in accordance with the demographic information. Logan shows, and the Board found, that, as common sense would suggest, the advertising program segments are “selected for transfer” before they are “prioritized.”

B. The Board Offered No Support For Its Conclusion That Logan Uses Demographic Information To Select Advertisements For Transfer.

The Board supports its conclusion that Logan uses demographic information to select advertisements with five citations to the Logan patent, and gives no consideration to the expert testimony offered by either party. A19. Most of the citations are unexplained. None of the citations support the position that Logan

uses demographics information to select advertisements for transfer to the computer.

Logan, Col. 20:32-35. The Board’s first citation explains that program segments are selected for download by comparing the content of three tables:

Program segments are selected for inclusion in the output Schedule Table 307 and/or the NewCatalog Table 308 by comparing the content of the Programs Table 303, the Subscribers Table 313, and the Advertisements Table 311.

A149 (20:32-35). This citation describes that program segments, which include advertising segments, are selected by comparing three tables. This citation is unhelpful, however, because it is not accompanied by an explanation of how the contents of the tables are compared, or whether there are differences in the way the different types of program segments are treated. Each of the tables contains demographic information, but the Advertisements Table contains no demographic information used for program selection. Advertisements Table 311 “contain[s] entries which describe advertising program segments to be brought to the attention of the subscriber” but they do not contain demographic information that is used for selection. A147 (16:35-37). The Advertisements Table contains Advertisement records. Each record describes the content of a given advertisement and “the makeup of the target audience” for the advertisement so that “advertisements scheduled for a given subscriber may be then prioritized.” A152 (25:15-20).

Nothing cited by Google or the Board establishes that the Subscriber table is used to match advertisement segments. The “Targeted Advertising” section of the specification does not mention the Subscriber table. *See* A151-152 (24:1-25:25). Likewise, the description of how the Subscriber table is used does not mention advertisements. *See* A148 (21:10-22:54).

The only definitive description of Logan’s use of demographic information in the context of advertising is found in the Targeted Advertising section of the specification. *See* A151-152 (24:1-25:25). This section unambiguously discloses a means of prioritization, not selection, and stands in stark contrast to the Board’s opaque citation quoted above.

Logan, Col. 22:64-67; Col. 23: 29-36. The Board’s second citation describes the means by which Logan selects program segments for download automatically:

Program segments which are of interest to the user and which should be included in either the Schedule Table 307 or the Catalog Table 308 may be automatically identified by the following mechanisms:

A150 (22:64-67). One of the “following mechanisms” is explained in the Board’s third citation. It describes matching subscriber attributes against program segment descriptions:

The attributes of the subscriber (birthdate, sex, marital status, and household size) specified in the Subscriber record may be matched against the corresponding

descriptions contained in the subject and program Program.Segment records (youngest, oldest, male, female, houselow, househigh) to identify programs and categories of programs likely to be of interest to a subscriber having those attributes.

A151 (23:29-36). Although this citation discusses subscriber attributes, it does not mention advertisements. Instead, advertisements are mentioned in the immediately following sentence, which the Board omitted.

An advertiser-supplied function defining this relationship is specified by the DemographicMatch function_id field of the Advertiser record, as discussed below.

Id. (23:36-39). The omitted citation establishes that advertisement segments, unlike other types of program segments, use demographics in the manner “specified by the DemographicMatch function.” *Id.* As explained below, the DemographicMatch function is a prioritization function that reorders previously selected advertisements. *See* A20. It is not used to select advertisements for transfer.

Logan, Col. 24:1-11. The Board’s fourth citation introduces Logan’s method for targeted advertising:

Targeted Advertising
In order to identify and insert advertising program segments into the Schedule Table 307, the preferred embodiment of the invention utilizes additional information which describes each advertisement to be placed before subscribers. This information is placed in an Advertisement record having the structure defined earlier and held in the Advertisements Table 311. The

ProgramID field of the Advertisement record identifies a Program_Segment record (described earlier) which describes the content of the advertisement itself.

A151 (24:1-11). To provide targeted advertisements, Logan uses additional information to describe each advertisement in more detail. This additional information is contained in the ProgramID field of the Advertisement record. Following the passage above, the specification explains that the remaining fields in the Advertisement record are used to control how the identified advertising program segments are supplied to subscribers. *See* A151 (24:11-15). The only fields related to demographics describe the DemographicMatch function and DemographicWeight value.

Again, the DemographicMatch function and DemographicWeight value do not “select[] advertising content for transfer to the computer in accordance with the demographic information.” Instead, DemographicMatch and DemographicWeight prioritize previously selected advertisements.

Logan, Col. 24:62-66. The Board’s final unexplained citation describes how Logan uses an InterestMatch function to indicate the subscriber’s level of interest in a given program segment:

Note the InterestMatch function described above can be used to generate a numerical indication of the degree to which a given subscriber may have an interest in any program segment, whether that segment contains advertising, entertainment, news, or other content.

A151 (24:62-66). The InterestMatch function is based on subscriber's interests and is not related to demographics.

II. LOGAN DOES NOT MEET THE “UNIQUE IDENTIFIER” LIMITATION OF CLAIM 11.

A. The Logan “AccountNo” Does Not “Uniquely Identify Information Sent From the Computer.”

Google attempted to satisfy the requirement of a “unique identifier” that “uniquely identifies information sent . . . from the computer” with the “AccountNo” used in Logan to identify a subscriber. *See* A64-A66. The Board agreed with Google that the AccountNo is such a “unique identifier.” A14. Google's expert admitted in his declaration that the Logan AccountNo refers to the subscriber, not the subscriber's computer. *See* A224, ¶112. B.E. agrees with that conclusion, which was advocated by Google and adopted by the Board. As an identifier of the user, the AccountNo is an unlikely candidate for the role of a Claim 11 unique identifier. As explained below, the Logan AccountNo does not “uniquely identif[y] information sent . . . from the computer.”

1. The Logan AccountNo Does Not Uniquely Identify “Information Sent . . . From The Computer.”

Throughout Claim 11, the terms “computer” and “user” are used to refer to distinct entities. The preamble of the claim refers to the invention as “[a] method of providing demographically-targeted advertising to a computer user” A130 (22:43-44). In the “permitting” limitation, it is a “computer user” who is

permitted, and the “acquiring” limitation refers to the acquisition of information about the “user,” who also provides information. *Id.* In the first “providing” limitation, the “user” is provided download access to software that is transferred to the “computer” in response to a request by the “user.” *Id.*

In the second “providing” limitation, the one in which the “unique identifier” first appears, the unique identifier is provided to the “computer,” and it “uniquely identifies information sent . . . from the computer.” *Id.* Advertising content is selected for transfer to the “computer,” and “computer” usage information is periodically acquired from the “computer.” *Id.*, (22:65–23:5). In each case, there is a clear distinction between the “computer” and the “user.” There is therefore no doubt that the unique identifier must uniquely identify information “sent . . . from the computer,” not information “sent . . . from the user.”

It is difficult to see how a unique identifier of a user could uniquely identify information “sent from the computer.” In the abstract, a unique identifier of a user has nothing to do with the computer. It may identify various things associated with a user, but it does not have anything to do with the computer, or what might be sent from the computer. Nothing in Logan supports the idea that the Logan AccountNo can “uniquely identify information sent . . . from the computer”

Consider a situation in which Users A, B, and C are identified by AccountNos 1, 2, and 3. The AccountNos uniquely identify the respective users (if they are not assigned to other users), but they do not “uniquely” identify information sent from the computer, by the respective users or otherwise. By their nature, these AccountNos refer to matters pertaining to the users, not the computer.

Even if it is assumed that AccountNo 1 identifies information sent from the computer in some way, it does not do so “uniquely.” If AccountNo 1 identifies information sent from the computer, so, too, do AccountNos 2 and 3. There is nothing “unique” about any identification by AccountNo 1 of information sent from the computer.

Considered from the perspective of User A, AccountNo 1 also fails the “uniquely” test. Logan discloses a variety of ways in which “player 103” can be implemented. The potential player embodiments include, at least, laptop, desktop, and mobile versions. *See* A142 (6:10-43). Nothing in Logan limits a subscriber (the subject of the AccountNo) to a single device, and nothing in Logan requires the use of a different AccountNo for each device. Appellee’s expert could not point to any such limitation in Logan. *See* A1256:1-25. Indeed, Logan is not consistent with the use of multiple AccountNos because the AccountNo is the identifier used to bill the subscriber and to make sure that the subscriber’s preferences are used in the delivery of program information. *See* A240, ¶ 119-120.

Because a subscriber can employ multiple players, the Logan AccountNo cannot “uniquely” identify information sent from any “player.” Claim 11 requires that a unique identifier uniquely identify information “sent from the computer.” Because the Logan AccountNo cannot do that, it does not satisfy the unique identifier limitation of Claim 11. For this reason alone, Appellee’s reliance on Logan to invalidate Claim 11 and dependent Claims 12, 13, 15, 18, and 20 must be rejected.

2. Claim 11 Requires An Identifier That “uniquely identifies information sent . . . from a computer . . .”

The term “unique identifier” is first claimed in the following limitations of Claim 11:

providing a unique identifier to the computer wherein
said identifier **uniquely identifies information sent** over
said computer network **from the computer** to said
server, associated said unique identifier with
demographic information in a database

A130 (22:59-64) (emphasis added). As plainly stated, the identifier uniquely identifies information “sent . . . from the computer.” The requirement of the claim language is that the identifier identify information “sent from the computer,” and that it do so “uniquely.” Claim 11 does not require, or inevitably forbid, that the unique identifier identify a user. It tolerates a user identifier if, but only if, the identifier “uniquely identifies information sent . . . from the computer.” Many types of user identifiers cannot do so, either because they do not, in any sense

identify information “sent from the computer,” or do not “uniquely” identify information “sent from the computer.”

The Board overlooked the requirement that the identifier identify information “sent from the computer,” and that it uniquely do that. As a result, the Board strayed to a focus on the meaning of the word “information.”

Under the Board’s construction, a unique identifier “identifies any information that is sent over the computer network,” which, the Board said encompasses the identification of a single user. The Board truncated the phrase “uniquely identifies information sent over said computer network from the computer to said server,” thus omitting consideration of the key language refuting its construction.

B.E. consistently emphasized the language overlooked by the Board, and consistently explained that a user identifier is not likely to meet the claim limitation because it will not “uniquely identify information sent . . . from the computer.” The Board did not get the point.

The Board then offered several citations to the ’314 patent specification. None contradicts the unambiguous language of the “unique identifier” limitation.

’314 patent, Col. 17:13-14.

Once server 22 receives a correctly completed form, flow moves to block 140 where server 22 assigns a unique ID to the user and then stores that ID along with the received demographic data, as indicated at block 142.

A128 (17:11-15). Importantly, “assigns a unique ID to the user” does not encompass the identification of an individual user, as the Board mistakenly concluded, but instead teaches the identification of the user’s computer which made the download request. The specification goes on to state that after the unique ID is assigned and stored, the “client software application 10 is downloaded to the user’s computer.” *Id.* (17:21-23). After the software application is downloaded, the unique ID is associated with anyone who uses the computer. Thus, the ’314 patent teaches a method of targeting distinct from Logan. While Logan tracks the information sent by a unique user, the ’314 patent tracks the information sent from a unique computer, regardless of how many users use that computer.

’314 patent, Col. 17:29-41.

The user ID that is stored along with the demographic data is used to anonymously identify the user for the purpose of demographically targeting advertising to that user. **This can be accomplished by assigning the user ID to the particular copy of the client software application downloaded by the user. Alternatively, the user ID can be included in a cookie placed by server 22 on the user's computer 18 and this cookie can be accessed by server 22 each time computer usage information is sent to server 22 so that the ID can be associated with the computer usage information.** In the illustrated embodiment, the user ID is associated with a user login that is required each time the client software application is executed.

Id. (17:29-41). If the user ID is assigned to software downloaded by the user, as described above, it will not “uniquely identify the user” because it will also

“identify” others who may use the user’s computer and software. The citation further describes using a cookie as an alternative means of storing a cookie on the software. The storing of a cookie would, like assigning the user ID to the software, not “uniquely” identify the user.

’314 patent, Col. 18:1-20.

If, back at block 150, the login name is determined to be new, the user can be queried as to whether they would like to set up a new account, as indicated at block 158. If not, then flow returns to block 148 where the login screen is again displayed. If a new account is desired, flow moves to block 160 where the application requests various demographic data, which can be the same data requested of the user who originally downloaded the application from server 22. At block 162 a check is made to determine whether all required demographic data was provided. If not, flow returns to block 160 to again request the required data. Once all required information has been provided, flow moves to block 164 where the application reports demographic data back to server 22, receives an assigned ID from the server, and stores the new user data at the client computer in user data storage 34. Flow then moves to block 166 where default preferences and bookmark lists are accessed and assigned to the new user. Flow then moves to block 156 where the graphical user interface is displayed, at which point the user can begin normal use of the application.

Id. (18:1-20). The Board’s lengthy citation describes Figure 9 and again teaches the ’314 patent’s method of identifying computer specific information. In stark contrast with Logan, the ’314 patent makes it impossible to uncouple a given user ID from the computer that was assigned the user ID when it downloaded the

software. For example, after an individual establishes a new account, the client software application, not the user who has employed a login, “receives an assigned ID from the server.”

There is nothing in the language of Claim 11 pointing directly to the user as the subject of the unique identifier. Indeed, by specifying that the identifier must “uniquely” identify information sent from the computer, the claim language tends to point away from identification of the user. Not all “unique information that can be used to identify a user” can uniquely identify information sent from the computer, and “any unique information that can be used to identify a user” is not a proper construction of the “unique identifier” of the ’314 patent.

III. THE BOARD IGNORED INTRINSIC EVIDENCE WHEN IT UNREASONABLY BROADENED THE CONSTRUCTION OF THE LIMITATION “PROVIDING A UNIQUE IDENTIFIER TO THE COMPUTER”

Claim 11 of the ’314 patent includes the step of “providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server.” A130 (22:59-62). The Board ignored the specification’s explicit guidance when it determined that the unique identifier can be provided by “any system, process, or entity.”

“Claims must be read in view of the specification, of which they are a part.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) *aff’d*, 517 U.S. 370 (1996). “[T]he specification is ‘always highly relevant to the claim

construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). “It is therefore entirely appropriate . . . to rely heavily on the written description for guidance as to the meaning of the claims. *Phillips*, 415 F.3d at 1317. Here, guidance is provided by the specification in construing this term. The ’314 patent is explicit that the unique identifier be “provided” to the computer by the server. In describing how a new account is created, the specification states that “[o]nce all required information has been provided, flow moves to block 164 where the application reports demographic data back to server 22, ***receives an assigned ID from the server***, and stores the new user data at the client computer in user data storage 34.” A128 (18:11-16) (emphasis added).

Although B.E. disputes the Board’s use of the broadest reasonable interpretation standard, the Board construed the claim so broadly that its construction is unreasonable and should be rejected. If the Board is to use the broadest reasonable interpretation standard, “[t]hat is not to say, however, that the Board may construe claims during *inter partes* so broadly that its constructions are *unreasonable* under general claim construction principles. *Microsoft Corp. v. Proxyconn, Inc.*, 789 F.3d 1292, 1298 (Fed. Cir. 2015). “The protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a

legally incorrect interpretation.” *In re Skvorecz*, 580 F.3d 1262, 1267 (Fed. Cir. 2009). Even under the broadest reasonable interpretation, the Board's construction “cannot be divorced from the specification and the record evidence,” *In re NTP, Inc.*, 654 F.3d 1279, 1288 (Fed.Cir.2011), and “must be consistent with the one that those skilled in the art would reach,” *In re Cortright*, 165 F.3d 1353, 1358 (Fed.Cir.1999). A construction that is “unreasonably broad” and which does not “reasonably reflect the plain language and disclosure” will not pass muster. *In re Suitco Surface, Inc.*, 603 F.3d 1255, 1260 (Fed. Cir. 2010).

Here, the Board construed “providing a unique identifier to the computer” and the “identifier uniquely identifies information sent over said computer network” to mean any system, process, or entity that provides a unique identifier to the computer, where the unique identifier identifies any information that is sent over the computer network. A10. The Board improperly concluded that *any* system, process, or entity can provide a unique identifier to the computer. This overly broad construction has no support from the ’314 patent or in the record. The Board stated that “[c]laim 11 does not limit the system, process, or entity that ‘provides’ the unique identifier.” *Id.* While the claim on its face does not explain the source of the unique identifier, the Board ignored what the specification specifically teaches—that the unique identifier is provided by the server—and the entire context of the ’314 patent. The ’314 patent involves client-server networked

systems. It was incorrect to find that any system, process, or entity, such as snail-mail or a phone system, can provide a unique identifier to the computer because it ignores the specific technical context to which the '314 patent relates. The Board's construction is unreasonably broad as it is unsupported, divorced from the specification, and does not reasonably reflect the plain language and disclosure.

A. Logan Does Not Teach A Server Providing A Unique Identifier To The Computer.

The '314 patent explicitly requires that the unique identifier be “provided” to the computer by the server. The “unique identifier” limitation first appears in the “providing a unique identifier to the computer” limitation. In the specification of the '314 patent, it is explained that “providing a unique identifier to the computer” refers to “receiv[ing] an assigned ID from the server.” A128 (18:14). Appellee has never identified any explicit disclosure of such receipt in Logan, and in its petition for *inter partes* review, appellee argued that Logan “necessarily” discloses receipt by the player of the AccountNo from the server, and therefore anticipates the “providing a unique identifier to the computer” limitation. In support of its position, appellee explained that “[s]ince the Usage Log Table includes the AccountNo and is uploaded to the server 101 from the player 103 on the user's computer, the user's computer must necessarily have been provided with the AccountNo prior to this upload step.” A64. Appellee's expert witness similarly argued that “one skilled in the art would recognize that the server necessarily

provided this AccountNo to the computer prior to the upload process (e.g., during the initial download process at Step 207).” A124 at ¶ 111.

Remarkably, in appellee’s reply to appellant’s response to the IPR petition, appellees argued that the server involvement they previously argued was inherent, was now completely unnecessary. In its reply, appellee instead argued there was no evidence that the ’314 patent ever required a server. Rather than be skeptical of such radical change in position, the Board adopted appellee’s new position as support for its expansive and limitation-destroying construction discussed above. There is no support for the Board’s expansive construction. There is no support for appellee’s short-lived inherency argument. But there is explicit support in the specification of the ’314 patent that the server provides the unique identifier, which is an element not met by Logan.

IV. CLAIM 15 IS NOT INVALID FOR OBVIOUSNESS OVER LOGAN AND ROBINSON.

As explained above, Logan fails to satisfy various limitations of Claim 11, and therefore the addition of the Robinson cookie does not result in the presence of all of the limitations of Claim 11, and thus of any of the dependent claims. As a result, the board should have found that Logan and Robinson together are not sufficient to invalidate Claim 11 or its dependent claims. *See CFMT, Inc.*, 349 F.3d at 1342.

A. One Of Ordinary Skill In The Art Would Not Be Motivated To Combine Logan and Robinson.

The Board erred when it found that one of ordinary skill would have been motivated to modify Logan with Robinson's cookie mechanism in order to increase security by storing information locally on a user's computer. A23. The Board states that an increase in security is an advantage derived from combining Logan and Robinson, and that Robinson expressly discloses such an advantage. *Id.* The Board and appellee, however, offer no support for the essential premise upon which their argument rests, that the Logan system suffered from some security inadequacy that would motivate a person of ordinary skill to seek solutions. The Logan system serves a specific purpose, "to deliver personalized information tailored to the personal interests and preferences of individual subscribers." A140 (1:33-35). Logan relies in part on the subscriber AccountNo to keep track of subscriber accounts and to arrange for billing. There is no reason why a person of ordinary skill would have considered the Logan AccountNo inadequate, or perceived a reason to use a cookie.

While Logan and Robinson deploy different systems to address the same general topic, this does not establish that one of ordinary skill would ignore design differences and combine them. That a technique that was not chosen has "advantages" does not mean that a person of ordinary skill in the art would have been motivated to adopt it to replace other perfectly adequate design choices. The

Board states that the motivation to combine is disclosed expressly in Robinson, but for such a motivation to be relevant there must exist some inadequacy upon which to improve. The Board and appellees never established that such an inadequacy exists.

V. THE BOARD SHOULD NOT HAVE DENIED B.E.’S MOTION TO AMEND.

A. B.E.’s Motion to Amend Did Not Introduced Terms That Required Construction.

B.E. distinguished its substitute Claim 23 from all of the cited prior art by adding the elements “wherein the computer usage information comprises information about the user’s interactions with said computer software displaying advertising content and at least one other program” and selecting advertising content in accordance with “real-time and other computer usage information and demographic information associated with said unique identifier, and transferring said advertising content from said server to the computer for display by said program.” A1576.

The Board found that B.E.’s Motion to Amend failed to provide claim constructions for the new terms its amendment added. A26. The lone example provided by the Board, however, did not require construction. Instead the Board’s discussion injected confusion into the interpretation of a readily understandable claim limitation. For the limitation “selecting advertising content for transfer to

the computer in accordance with real-time and other computer usage information and demographic information . . .” the Board asserts that it is unclear “whether the ‘selecting’ or ‘transfer’ is in accordance with ‘real-time.’” *Id.* The only thing unclear about this limitation is how the Board could parse the phrase “selecting advertising content for transfer” in a manner that severs the word “transfer” from the verb it is obviously modifying.

The limitation “selecting advertising content for transfer to the computer in accordance with real-time . . . information” is further explained by the numerous citations to the original disclosure contained in B.E.’s Motion to Amend. *See* A1580-1581. These citations, detailed more fully below, reveal a consistent application of the term “real-time,” which, when read in context, evince a term that could not reasonably need construction or be subject to dispute.

B. B.E.’s Written Description Support for its Amended Claim Was Adequate.

The Board also erred in finding that the written description requirement was not met because B.E. did not clearly identify written description support for each proposed claim substitute. B.E. filed its motion to amend on July 9, 2014 and its reply to Google’s opposition on October 10, 2014. At the time, the only motion to amend that the Board had granted was submitted by the U.S. Government in *Int’l Flavors & Fragrances Inc. v. The United States of America, As Represented By The Secretary Of Agriculture*, IPR2013-00124, 2014 WL 2120542 (May 20, 2014).

The U.S. Government provided written description support in the following paragraph, reproduced from the Government's motion in full below:

III. SUPPORT FOR CLAIMED SUBJECT MATTER

Each of the proposed claims finds support in “the original disclosure of the patent” (U.S. App. Ser. No. 12/106,505 (the '505 application), which issued as U.S. Pat. No. 7,579,016). See 37 C.F.R. §§42.121(b)(1)-(2). Support for each of the proposed claims and/or the additional elements of the proposed claims is provided below with reference to the as-filed version of the application. The as-filed version of the '016 application is submitted herewith as **Exhibit 1**.

Support for proposed substitute claim 27 can be found in at least ¶¶ 0071 and 0078-0083. Support for proposed substitute claims 28-44 can be found in at least ¶ 0085. Support for proposed substitute claim 41 can also be found in at least ¶ 0031. Support for proposed substitute claim 42 can also be found in at least ¶ 0052. Support for proposed substitute claims 43-44 can also be found in at least ¶ 0036. Support for proposed substitute claim 45 can be found in at least ¶¶ 0071 and 0036.

Mot. to Amend at *8, *Int'l Flavors & Fragrances Inc. v. The United States of America, As Represented By The Secretary Of Agriculture*, IPR2013-00124, (May 20, 2014), 2014 WL 2120542.

Based on this description, the Board “conclude[ed] that Patent Owner has made a sufficient showing that each of proposed independent claims 27 and 45, as well as each of proposed dependent claims 28-44, as a whole, has written description support in the application as filed.” *Int'l Flavors & Fragrances Inc. v.*

The United States of America, As Represented By The Secretary Of Agriculture,
IPR2013-00124, 2014 WL 2120542, at *5 (May 20, 2014).

Seeking to emulate the U.S. Government's successful motion, B.E. modeled its motion after the Government's motion. B.E.'s equivalent "Support For Claimed Subject Matter" paragraph is reproduced in full below:

IV. SUPPORT FOR CLAIMED SUBJECT MATTER.

Each of the proposed claims finds support in "the original disclosure of the patent" (U.S. Application Serial No. 09/699,705 (the '705 application), which issued as U.S. Patent No. 6,628,314). *See* 37 C.F.R. §§ 42.121(b)(1)-(2). Support for each of the proposed claims and/or the additional elements of the proposed claims is provided below with reference to the as-filed version of the application. The as-filed version of the '705 application is submitted herewith as Exhibit 2004.

The as-filed version of the '705 application is submitted herewith as Exhibit 2004. Support for proposed substitute claim 23 can be found in at least original claim 11, as well as the Abstract; page 4, lines 21-28; page 5, lines 6-7; page 8, lines 13-27; page 9; page 10, lines 1-13; page 11, lines 18-20; page 13, lines 18-22; page 14, lines 16-25; page 15, lines 7-26; page 17, lines 12-13; page 20, lines 19-28; page 21, lines 1-2 and 20-28; and pages 25-28.

A1580-1581.

The Board found that B.E.'s citations "fail[ed] to point out with any particularity or explanation as to where in the several cited passages the additional limitations are supported." A27. This finding is especially perplexing considering that the primary distinction between the Government's support and B.E.'s support

is that B.E.’s citations offer more particularity than the Government’s, not less.

Rather than cite full paragraphs, like the Government, B.E. delineated most of its support down to the line.¹

To illustrate B.E.’s deficient support, the Board explained that it was “unable to discern readily where support for” the limitation “selecting advertising content for transfer to the computer in accordance with real-time” was located. If, however, the Board had simply read the Abstract, it would have learned that “[t]he software application further targets the advertisements in response to normal user interaction, or use, of the computer . . . This provides two-tiered, real-time targeting of advertising – both demographically and reactively.” Similarly, if the Board had read Page 10 lines 1-13, it would have discovered that “identifiers permit real time, reactively-targeted advertising since the program can respond to user interaction with the computer to determine whether the input relates to a particular category of information, and, if so, can select advertising related to that category of information.”

¹ B.E., like the U.S. Government, relied upon the Board to visit the citations it provided. At the time of filing, motions to amend were limited to 15 pages. Providing detailed explanation or quoting the support cited was impossible given the space constraints. In recognition of trade-offs the page limit was forcing movants to make, on May 19, 2015 the U.S. Patent and Trademark Office increased the limit to 25 pages, and allowed the movant to include the claim listing in an appendix, rather than the body of the motion, so that it did not count against the limit. Amendments to the Rules of Practice for Trials Before the Patent Trial and Appeal Board, 80 FR 28561-01, 28562 Federal Register, Vol. 80, No. 96, (Tuesday, May 19, 2015)..

The regulations governing motions to amend require that the motion “set forth: (1) The support in the original disclosure of the patent for each claim that is added or amended; and (2) The support in an earlier-filed disclosure for each claim for which benefit of the filing date of the earlier filed disclosure is sought. 37 C.F.R. § 42.121(b). B.E. satisfied both requirements in a manner that exceeded what the Board had previously found sufficient. A simple reading of the cited material demonstrates unambiguously that the amended claims are adequately supported. The Board’s cursory finding to the contrary is clearly erroneous.

B.E.’s motion to amend should be granted or at the very least remanded to the Board for consideration on the merits.

VI. THE BROADEST REASONABLE INTERPRETATION STANDARD SHOULD NOT APPLY IN *INTER PARTES* REVIEW PROCEEDINGS.

B.E. recognizes that this Court upheld the Board’s use of the “broadest reasonable interpretation” (“BRI”) standard in *In re Cuozzo*, F.3d at 1278, and that that decision is binding on this panel unless overturned by the en banc Court or the Supreme Court. B.E. reserves the right to challenge the Board’s use of this standard if the Court affirms the Board’s construction of the disputed terms discussed herein.

Should *In re Cuozzo* be overturned during the pendency of this appeal, B.E. submits that the BRI standard should not apply in *inter partes* review proceedings,

and requests that claim construction be carried out in a manner consistent with the rules that would be applied in B.E.'s infringement actions against Google, Microsoft, and others in the United States District Court for the Western District of Tennessee.

B.E. argued in the proceeding below that the adoption of the BRI standard exceeds the PTO's limited rule making authority. It is settled that the office has no substantive rule making authority. *Cooper Techs. Co. v. Dudas*, 536 F.3d 1330, 1336 (Fed. Cir. 2008); *see also Lacavera v. Dudas*, 441 F.3d 1380, 1383 (Fed. Cir. 2006). The adoption of the BRI standard was substantive because it can affect the meaning of the claims and ultimately the validity of the patent. The Board has acknowledged that there is no dispute that "[p]rior to the AIA, 35 U.S.C. § 2(b)(2) was said to be the 'broadest of the Office's rulemaking powers,'" and those powers were limited to the promulgation of procedural rules.

The argument that 35 U.S.C. §§ 326 and 316 granted new rule making authority has no merit. Both of these sections refer to "conduct" of, respectively, inter partes reviews and post grant reviews. The use of the word "conduct" does not signify "substance." The language of the statute is consistent with language of 35 U.S.C. 2(b)(2)(A) allowing the PTO to govern the "conduct" of proceedings in the Office. The Federal Circuit has recognized that this language confers no substantive authority. *Tafas v. Doll*, 559 F.3d 1345, 1352 (Fed. Cir. 2009), vacated

and reh’g en banc granted, 328 F. App’x 658 (Fed. Cir. 2009), stayed, 331 F. App’x 748 (Fed. Cir. 2009). Nothing contained in either section 316 or 326 confers substantive rule-making authority.

Inter partes reviews were intended by Congress to provide an adjudicative alternative to the determination of patent validity. “The Act *converts inter partes reexamination from an examinational to an adjudicative proceeding*, and renames the proceeding ‘*inter partes* review.’” H.R. Rep. No. 112-98, pt. 1, at 46-47 (emphasis added). In an *inter partes* review, the patent owner does not have the right to amend claims that existed during examination and reexamination. Under these circumstances, application of the BRI standard is not consistent with the letter or spirit of the America Invents Act.

VII. CONCLUSION.

For the foregoing reasons, the Court should reverse the PTAB’s Final Written Decision finding that claims 11-13, 15, 18, and 20 of the ’314 patent are unpatentable. The Court should also reverse and remand for reconsideration of B.E.’s motion to amend the claims.

Respectfully submitted,

Dated: September 28, 2015

/s/Robert E. Freitas

Robert E. Freitas

CERTIFICATE OF SERVICE

It is certified that copies of the foregoing have been served via electronic transmission to the persons at the address below:

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CERTIFICATE OF COMPLIANCE

Pursuant to Federal Rule of Appellate Procedure 32(a)(7)(C), I certify that the Appellant's Opening Brief is proportionally spaced, in a typeface of 14 points or more and contains 9,200 words, exclusive of those materials not required to be counted under Rule 32(a)(7)(B)(iii).

/s/Robert E. Freitas

Robert E. Freitas

ADDENDUM

Final Written Decision dated March 31, 2015

U.S. Patent 6,628,314

Trials@uspto.gov
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Paper 36
Entered: March 31, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE, INC., MATCH.COM LLC, and PEOPLE MEDIA, INC.,
Petitioner,

v.

B.E. TECHNOLOGY, LLC,
Patent Owner.

Case IPR2014-00038
Case IPR2014-00699
Patent 6,628,314

Before SALLY C. MEDLEY, KALYAN K. DESHPANDE, and
LYNNE E. PETTIGREW, *Administrative Patent Judges*.

DESHPANDE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a); 37 C.F.R. § 42.73

IPR2014–00038
IPR2014–00699
Patent 6,628,314

I. INTRODUCTION

A. Background

Google, Inc. (“Google”) filed a Petition to institute *inter partes* review of claims 11, 12, 13, 15, 18, and 20 of U.S. Patent No. 6,628,314 (Ex. 1001, “the ’314 patent”). Paper 1 (“Pet.”). B.E. Technology, LLC (“Patent Owner”) did not file a preliminary response. Pursuant to 35 U.S.C. § 314, we instituted *inter partes* review on April 9, 2014, as to claims 11, 12, 13, 15, 18, and 20 of the ’314 patent—claims 11, 12, 13, 18, and 20 under 35 U.S.C. § 102 as anticipated by Logan¹ and claim 15 under 35 U.S.C. § 103 as obvious over Logan and Robinson.² Paper 9 (“Dec.”).

After institution of the *inter partes* review, Match.com LLC (“Match.com”) and People Media, Inc. (“People Media”) filed a Petition and a Motion to Join the *inter partes* review. IPR2014-00699, Papers 1, 4. We granted the motion and joined Google, Match.com, and People Media (collectively, “Petitioner”) in the *inter partes* review. Paper 22.

Patent Owner filed a Response (Paper 25, “PO Resp.”) and Petitioner filed a Reply (Paper 27, “Pet. Reply”). Patent Owner filed a Motion to Amend (Paper 26, “Mot. to Amend”), Petitioner filed an Opposition to Patent Owner’s Motion to Amend, and Patent Owner filed a Reply to Petitioner’s Opposition.

Oral hearing was held on December 10, 2014, and the hearing transcript has been entered in the record as Paper 35 (“Tr.”).

The Board has jurisdiction under 35 U.S.C. § 6(c). This final written decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the

¹ U.S. Patent No. 5,721,827 (Ex. 1002) (“Logan”).

² U.S. Patent No. 5,918,014 (Ex. 1003) (“Robinson”).

IPR2014-00038
IPR2014-00699
Patent 6,628,314

reasons discussed below, we determine that Petitioner has shown by a preponderance of the evidence that claims 11, 12, 13, 15, 18, and 20 of the '314 patent are unpatentable. Patent Owner's contingent Motion to Amend is *denied*.

B. Related Proceedings

Petitioner indicates that the '314 patent is the subject of several district court cases: *B.E. Technology, L.L.C. v. Google, Inc.*, No. 2:12-cv-2830-JPM (W.D. Tenn.), filed on October 9, 2012; *B.E. Technology, L.L.C. v. People Media, Inc.*, No. 2:12-cv-02833 (W.D. Tenn.), filed on September 21, 2012; and *B.E. Technology, L.L.C. v. Match.com LLC*, No. 2:12-cv-02834 (W.D. Tenn.), filed on September 21, 2012. Pet. 1; IPR2014-00699, Paper 1, 2.

The '314 patent is also the subject of *Microsoft Corp. v. B.E. Technology, L.L.C.*, IPR2014-00039 (PTAB Apr. 9, 2014), *Facebook, Inc. v. B.E. Technology, L.L.C.*, IPR2014-00052 (PTAB Apr. 9, 2014), *Facebook, Inc. v. B.E. Technology, L.L.C.*, IPR2014-00053 (PTAB Apr. 9, 2014), *Match.com LLC v. B.E. Technology, L.L.C.*, IPR2014-00698 (PTAB June 13, 2014), *Google, Inc. v. B.E. Technology, L.L.C.*, IPR2014-000738 (PTAB June 18, 2014), *Google, Inc. v. B.E. Technology, L.L.C.*, IPR2014-00743 (PTAB June 18, 2014), and *Google, Inc. v. B.E. Technology, L.L.C.*, IPR2014-00744 (PTAB June 18, 2014). IPR2014-00738 has been joined with IPR2014-00039, IPR2014-00743 has been joined with IPR2014-00052, and IPR2014-00698 and IPR2014-00744 have been joined with IPR2014-00053.

C. The '314 Patent

The '314 patent relates to user interfaces that provide advertising obtained over a global computer network. Ex. 1001, col. 1, ll. 12-16. The '314 patent discloses a client software application that comprises a graphical user interface

IPR2014-00038
 IPR2014-00699
 Patent 6,628,314

(GUI) program module and an advertising and data management (ADM) module. *Id.* at col. 6, ll. 64–67. The GUI comprises multiple regions, including a first region comprising a number of user selectable items and a second region comprising an information display region, such as banner advertisements. *Id.* at col. 4, ll. 24–37. Program modules associated with the GUI store statistical data regarding the display of the selected informational data, allowing the targeting of banner advertisements based upon the type of link selected by the user. *Id.* at col. 4, ll. 43–51. The system for selecting and providing advertisements is set forth in Figure 3 as follows:

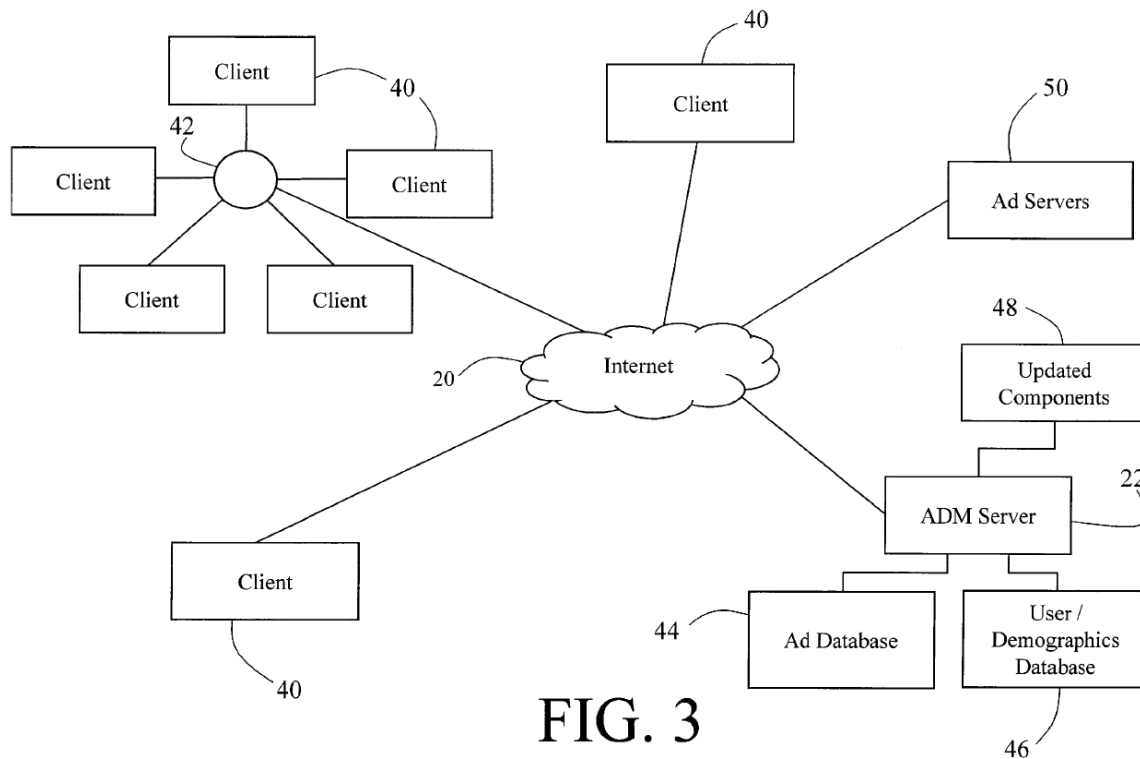


FIG. 3

Figure 3 illustrates a block diagram of a system distributing advertisements over the Internet. *Id.* at col. 6, ll. 21–22. ADM server 22 is accessible by client computers 40 over Internet 20, where client computers 40 have the client software application installed. *Id.* at col. 8, ll. 32–35. ADM server has associated with it

IPR2014–00038
IPR2014–00699
Patent 6,628,314

Ad Database 44 and User/Demographics Database 46. *Id.* at col. 8, ll. 38–43. Ad Database 44 stores banner advertising that is provided to client computers 40. *Id.* User/Demographics Database 46 stores demographic information used in targeting advertising downloaded to individual client computers 40. *Id.* at col. 8, ll. 55–57.

When a user first accesses the client software application for the purposes of downloading and installing the application, the user submits demographic information that is used to determine what advertising is provided to the user. *Id.* at col. 8, ll. 57–62. The demographic information is submitted by the user by entering the information into a form provided to the user, and ADM server 22 checks the completeness of the form. *Id.* at col. 16, l. 60 – col. 17, l. 2. ADM server 22 then assigns a unique ID to the user and stores the unique ID with the received user demographic information. *Id.* at col. 17, ll. 11–15. An initial set of advertisements is selected, and the client software application is downloaded to client computer 40 for installation. *Id.* at col. 17, ll. 17–23. The client software application monitors user interaction with the computer, whether with the client software application or with other applications, and later reports this information to the ADM server. *Id.* at col. 12, ll. 55–59, col. 13, ll. 1–2. Advertising banners are displayed in response to some user input or periodically at timed intervals. *Id.* at col. 14, ll. 40–43. The client software application targets the banner advertising displayed, based on the user’s inputs, so that it relates to what the user is doing. *Id.* at col. 14, ll. 43–46.

D. Illustrative Claims

Petitioner challenges claims 11, 12, 13, 15, 18, and 20 of the ’314 patent. Independent claim 11 and dependent claim 15 are illustrative of the claims at issue and follow:

IPR2014-00038
IPR2014-00699
Patent 6,628,314

11. A method of providing demographically-targeted advertising to a computer user, comprising the steps of:
providing a server that is accessible via a computer network,
permitting a computer user to access said server via said computer network,
acquiring demographic information about the user, said demographic information including information specifically provided by the user in response to a request for said demographic information,
providing the user with download access to computer software that, when run on a computer, displays advertising content, records computer usage information concerning the user's utilization of the computer, and periodically requests additional advertising content,
transferring a copy of said software to the computer in response to a download request by the user,
providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server,
associating said unique identifier with demographic information in a database,
selecting advertising content for transfer to the computer in accordance with the demographic information associated with said unique identifier;
transferring said advertising content from said server to the computer for display by said program,
periodically acquiring said unique identifier and said computer usage information recorded by said software from the computer via said computer network, and
associating said computer usage information with said demographic information using said unique identifier.

15. The method of claim 11, wherein said providing a unique identifier step further comprises storing a cookie on the computer.

E. Claim Construction

The Board will interpret claims of an unexpired patent using the broadest reasonable construction in light of the specification of the patent in which they appear. *See* 37 C.F.R. § 42.100(b); *see also In re Cuozzo Speed Techs., LLC*, No.

IPR2014–00038
IPR2014–00699
Patent 6,628,314

2014-1301, 2015 WL 448667, at *7–8 (Fed. Cir. Feb. 4, 2015) (“Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA,” and “the standard was properly adopted by PTO regulation.”). Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech. Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

1. “*providing a unique identifier to the computer*”

Independent claim 11 recites the limitation “providing a unique identifier to the computer.” Petitioner argues that the ’314 patent discloses that the server “assigns a unique ID to the user” and “[t]he user ID that is stored along with the demographic data is used to anonymously identify the user.” Pet. 6 (quoting Ex. 1001, col. 17, ll. 13–14, 29–31). Petitioner contends that the broadest reasonable construction of “unique identifier” is “information that uniquely identifies a user.” *Id.* (citing Ex. 1004 ¶ 91).

Patent Owner contends that Petitioner’s construction of “unique identifier” is based on an incomplete reading of the ’314 patent specification and completely ignores the actual claim language. PO Resp. 5–10. Patent Owner specifically argues that the claim language makes no mention of “user” with reference to “unique identifier.” *Id.* at 6. Patent Owner argues that the ’314 patent specification discloses that the anonymity of the user can be further “accomplished by assigning the user ID to the particular copy of the client software application downloaded by the user” and, therefore, the user ID is assigned to the software and will not identify the user. *Id.* at 7 (quoting Ex. 1001, col. 17, ll. 31–34). Patent Owner further asserts that the ’314 patent discloses that the user ID can be

IPR2014–00038
IPR2014–00699
Patent 6,628,314

included in a cookie, associated with demographic data of a user when establishing a new account, or associated with a user login. *Id.* at 8 (citing Ex. 1001, col. 17, ll. 34–41, col. 18, ll. 1–20). Patent Owner concludes that, because the ’314 patent discusses the “unique identifier” in different manners, the meaning of “unique identifier” should not be limited to “information that uniquely identifies a user.” *Id.* at 8–9.

Although we are persuaded by Patent Owner that the scope of “unique identifier” is not limited to identifying a user, we also are persuaded by Petitioner that the meaning of “unique identifier” encompasses information that uniquely identifies a user. Claim 11 recites “providing a unique identifier to the computer” and the “identifier uniquely identifies information sent over said computer network.” Claim 11 does not limit the system, process, or entity that “provides” the unique identifier. Claim 11 further only requires that the “unique identifier” identifies “information” that is sent over the computer network. Patent Owner agrees that claim 11 does not limit what the “information” is. *See* Tr. 32:21–24. Patent Owner also agrees that the discussion of “unique identifier” in the ’314 patent specification does not limit “unique identifier” to mean “information that uniquely identifies a user.” PO Resp. 9. Patent Owner concludes that the ’314 patent specification provides examples and context for the term “unique identifier,” but does not limit the scope of this term. *See Id.* at 7–8.

Accordingly, we determine that the “information” identified by the “unique identifier” can include user information. That is, the “unique identifier” can include a user ID that uniquely identifies information sent over a computer

IPR2014–00038
 IPR2014–00699
 Patent 6,628,314

network as information associated³ with a particular user. This construction is consistent with the several examples provided in the '314 patent specification. *See* Ex. 1001, col. 17, ll. 13–14, 29–41, col. 18, ll. 1–20. Therefore, we determine that the limitations of “providing a unique identifier to the computer” and the “identifier uniquely identifies information sent over said computer network” to mean any system, process, or entity providing a unique identifier to the computer, where the unique identifier identifies any information that is sent over the computer network. Although our construction is broader than Petitioner’s proposed construction, our construction also encompasses Petitioner’s construction that the “unique identifier” is “information that uniquely identifies a user.”

2. “*demographic information*”

Petitioner proposes that the term “demographic information” means “collected characteristic information about a user that does not identify the user.” Pet. 6–7. Patent Owner does not provide a construction for this term. We agree with Petitioner and construe “demographic information” to mean “collected characteristic information about a user that does not identify the user.” Petitioner points to the context of “demographic information” as used in the '314 patent specification to include time zone, locale, and client hardware. *Id.* (citing Ex. 1001, col. 3, ll. 8–10). We agree that Petitioner’s proposed definition for

³ Patent Owner also presents arguments that the term “associating” cannot be used as a substitute for “providing” and that information is associated “with” a user and not associated “to” a user. PO Resp. 17–20. Although we agree with Patent Owner’s arguments that the term “providing” cannot be substituted for “associating” and that information is associated “with” a user and not “to a user,” we do not find these arguments impact our construction of the limitations “providing a unique identifier to the computer” and the “identifier uniquely identifies information sent over said computer network.” We, however, have considered these arguments in determining our claim construction.

IPR2014–00038
IPR2014–00699
Patent 6,628,314

“demographic information” is both reasonable and consistent with its usage in the ’314 patent specification. *Id.*

3. “*software*”

Claim 11 recites “providing the user with download access to computer software that . . . records computer usage information.” Petitioner contends that although the Specification defines “software application” to mean “a program and associated libraries and other files” (Ex. 1001, col. 4, ll. 12–13), the broader term “software” includes “one or more programs.” Pet. 7–8 (citing Ex. 1004 ¶¶ 95–96; Ex. 1007, 4). Patent Owner does not provide a construction for this term. We agree with Petitioner’s proposed construction. The ’314 patent specification specifically defines a “software application” to include only a single program, whereas the claims recite the broader term “software,” which implicitly must encompass more than a single program or application. Accordingly, we construe “software” to mean one or more programs and their associated libraries and files.

4. “*periodically*”

Claim 11 recites “software that . . . periodically requests additional advertising content” and “periodically acquiring said unique identifier and said computer usage information.” Petitioner proposes that the plain meaning of “periodically” means “at regular or irregular time intervals.” Pet. 7 (citing Ex. 1004 ¶¶ 93–94). Patent Owner does not provide a construction for this term. The ’314 patent specification does not provide a special definition for “periodically,” and the claims do not limit further the scope of “periodically.” We agree with Petitioner that the plain and ordinary meaning of “periodically” includes “recurring from time to time,” and, under the broadest reasonable construction, means “at regular or irregular time intervals.” Pet. 7. Accordingly, we construe

IPR2014–00038
IPR2014–00699
Patent 6,628,314

“periodically” to mean “recurring from time to time, at regular or irregular time intervals.”

II. ANALYSIS

A. Anticipation of Claims 11, 12, 13, 18, and 20 by Logan

1. Logan (Ex. 1002)

Logan discloses a system for selectively distributing personalized information and entertainment programming to subscribers. Ex. 1002, col. 1, ll. 7–10. The system utilizes a library consisting of a large number of programs created and maintained by a server subsystem, and a remotely located subscriber/player subsystem that connects to the server subsystem. *Id.* at col. 1, ll. 39–52. The server subsystem accepts a subscriber’s information regarding the subscriber’s general interests, characteristics, and preferences. *Id.* at col. 2, ll. 1–6. The subscriber characterization data is matched periodically against stored program segments to identify program segments of significant potential appeal to that subscriber. *Id.*

2. Analysis

Petitioner argues that Logan discloses every limitation of claim 11. Pet. 13–32. Petitioner provides a detailed claim chart that maps each claim limitation to a disclosure in Logan that meets the claim limitation. *Id.*

Patent Owner argues that (a) Logan does not disclose a “unique identifier,” (b) Logan does not disclose “providing a unique identifier to the computer,” (c) Logan does not disclose “selection of advertising content for transfer to the computer in accordance with the demographic information,” and (d) the adoption

IPR2014–00038
IPR2014–00699
Patent 6,628,314

of the “broadest reasonable construction” rule exceeds the PTO’s rule making authority.⁴ PO Resp. 5–38.

a. “unique identifier”

Claim 11 recites “providing a unique identifier.” Petitioner argues that Logan describes a subscriber field that contains the “AccountNo” of the subscriber. Pet. 21 (citing Ex. 1002, col. 26, ll. 9–22). Based on Petitioner’s claim construction that “unique identifier” encompasses “information that uniquely identifies a user,” Petitioner argues that Logan’s “AccountNo” describes the claimed “unique identifier.” Pet. 21; *see* Pet. 6 (citing Ex. 1004 ¶ 91).

Patent Owner argues that Logan discloses an “AccountNo,” which is not the same as a “unique identifier.” PO Resp. 6–15. Patent Owner specifically argues that the claim limitation does not make any mention of a “user” and the term “unique identifier” is not limited to an identifier that identifies a user. *Id.* Accordingly, Patent Owner argues that Logan fails to disclose a “unique identifier,” because the claim construction of “unique identifier” provided by Petitioner incorrectly limits “unique identifier” to identifying a user. *Id.*

Petitioner responds that the ’314 patent specification provides an example where the “unique identifier” identifies both a user and information, and, therefore, Petitioner’s construction of “unique identifier” is consistent with the ’314 patent specification. *See* Pet. Reply 4 (citing Ex. 1001, col. 16, ll. 17–24) (“[S]ince client software application 10 communicates with server 22 from time to time and can

⁴ Patent Owner also argues that the testimony submitted by Petitioner from Mr. Gray is not in the form of an affidavit and, therefore, is not compliant under 37 C.F.R. § 42.53. PO Resp. 36. Patent Owner, however, did not serve objections to this testimony within ten days of the institution of trial in this proceeding and did not file a motion to exclude this testimony. Tr. 41:15–20. Accordingly, Patent Owner has withdrawn the objection to Mr. Gray’s testimony. *Id.* at 42:5–9.

IPR2014–00038
IPR2014–00699
Patent 6,628,314

report back computer usage information as well as information concerning the display of banners, this information can be associated with the user’s demographic information (by way of their unique ID).” (emphasis omitted)). Petitioner further responds that Logan discloses a “usage log” that is indexed by a subscriber field that includes the “AccountNo” of the subscriber. Pet. Reply 5 (citing Ex. 1002, col. 8, ll. 10–18, col. 26, ll. 9–23). Petitioner also responds that the “AccountNo” identifies the subscriber and identifies computer usage information whenever the “usage log” is uploaded from the computer to the server. *Id.* (citing Ex. 1002, col. 8, ll. 10–18, col. 21, ll. 38–43).

We agree with Petitioner. As discussed above, although we agree with Patent Owner that neither the claims nor the ’314 patent specification limits the scope of “unique identifier” to identifying a user, we also agree with Petitioner that the meaning of “unique identifier” includes information that identifies a user. *See* Section I.E.1. The limitation of “providing a unique identifier to the computer” means any system, process, or entity that provides a unique identifier to the computer, where the unique identifier identifies any information that is sent over the computer network. *See id.* As also discussed above, Petitioner’s narrower construction of “unique identifier” as “information that uniquely identifies a user” is encompassed by the broadest reasonable construction that is consistent with the ’314 patent specification.

We are persuaded by Petitioner that Logan discloses a “usage log,” which includes computer usage information, and the “usage log” is uploaded from the computer to the server. Pet. Reply 5 (citing Ex. 1002, col. 8, ll. 10–18). Logan further describes that the “usage log” is indexed by a “subscriber” field, which contains the “AccountNo” of the subscriber. *Id.* (citing Ex. 1002, col. 26, ll. 9–23).

IPR2014–00038
IPR2014–00699
Patent 6,628,314

Thus, when the “usage log” is uploaded from the computer to the server, both the “subscriber” field and the “AccountNo” identify the information sent over the computer network. That is, both the “subscriber” field and the “AccountNo” identify a particular subscriber with the usage information sent over the computer network. Accordingly, we agree with Petitioner that Logan discloses a “unique identifier” and “providing a unique identifier to the computer.”

b. “providing a unique identifier to the computer”

Patent Owner further contends that Logan fails to disclose “providing a unique identifier.” PO Resp. 15–20. Patent Owner specifically contends that the ’314 patent specification discloses that the computer “receiv[es] an assigned ID from the server” and the Petitioner fails to identify any receipt. PO Resp. 15 (citing Ex. 1001, 8:13). Accordingly, Patent Owner argues that Petitioner has relied on an unsound inherency argument, because Petitioner argues that “the user’s computer must necessarily have been provided with the AccountNo prior to this upload step,” and because Mr. Gray testifies that “one of ordinary skill in the art would recognize that the server necessarily provided this AccountNo to the computer prior to the upload process (e.g., during the initial download process at Step 207).” *Id.* at 15–16 (citing Pet. 21; Ex. 1004 ¶ 111) (emphasis omitted). Patent Owner argues that the reliance on inherency is improper because various alternatives existed at the time, such as sending the “AccountNo” to the subscriber by “snail mail,” where the server would not be sending the “AccountNo” to the subscriber computer. *Id.* at 16 (citing Ex. 2001 ¶ 21).

Petitioner responds that the claims do not require that the computer “receiv[es] an assigned ID from the server.” Pet. Reply 7. Petitioner further responds that in the examples provided by Patent Owner where the subscriber, and

IPR2014–00038
IPR2014–00699
Patent 6,628,314

not the subscriber’s computer, receives the “AccountNo,” “the subscriber would still have to provide the AccountNo to the player 103 in order for the player 103 to upload the usage logs.” *Id.* at 8.

We disagree with Patent Owner. As discussed above, we construe the limitation “providing a unique identifier” to mean any system, process, or entity providing a unique identifier to the computer, where the unique identifier identifies any information that is sent over the computer network. *See* Section I.E.1. Although the ’314 patent specification describes that the computer “receives an assigned ID from the server,” the claims merely require “providing a unique identifier,” and we see no reason to import this receiving feature from the ’314 patent specification into the claims. Thus, we are not persuaded by Patent Owner’s argument that the limitation of “providing a unique identifier” requires that the computer “receiv[es] an assigned ID from the server.”

Furthermore, we agree with Petitioner that the limitation “providing a unique identifier to the computer” does not require that the *server* provides the “unique identifier.” Pet. Reply 7. As discussed above in our claim construction, any system, process, or entity can provide a unique identifier. *See* Section I.E.1. We see no reason to limit the scope of this limitation such that the *server* must provide the computer with the “unique identifier.” Accordingly, the claim limitation is met even if the subscriber manually provides the computer with the “AccountNo” after receiving the “AccountNo,” based on Patent Owner’s various examples. *See* PO Resp. 16. As such, we agree with Petitioner that Logan discloses “providing a unique identifier to the computer.”

IPR2014–00038
IPR2014–00699
Patent 6,628,314

c. “selection of advertising content for transfer to the computer in accordance with the demographic information”

Claim 11 recites “selecting advertising content for transfer to the computer in accordance with the demographic information.” Petitioner argues that Logan discloses identifying and inserting advertising segments into Schedule Table 307, which is transferred to player 103. Pet. 23 (citing Ex. 1002, col. 16, ll. 63–67, col. 24, ll. 2–6, Fig. 4). Petitioner further argues that all scheduled advertisements are prioritized based on matching algorithms that incorporate a subscriber’s personal characteristics, such as age, sex, marital status, and size of household. Pet. 24 (citing Ex. 1002, col. 25, ll. 8–10, col. 25, ll. 15–17).

Patent Owner argues that Logan fails to describes this limitation because Logan describes selecting advertisements based on “selections and preferences made by (or inferred for) the user as specified in the subscriber data and usage log database 143” and, therefore, Logan does not describe selecting advertisements based on demographic information. PO Resp. 21–22 (citing Ex. 1002, col. 5, ll. 33–36) (emphasis omitted). Patent Owner specifically argues that Logan describes that advertisements are selected based on interests, and although a demographics matching function exists, demographics are not used in the selection of advertisements. *Id.*; Tr. 25:9–26:4. Patent Owner argues that Logan discloses calculating a “DemographicWeight,” based on demographic information, that is used to “prioritize” already scheduled advertisements, but is not used in the “selection of advertising content . . . in accordance with demographic information.” PO Resp. 22–23, 33–34.

Petitioner responds that Logan is directed to a targeted advertising system and discloses “selecting advertising content for transfer to the computer in accordance with the demographic information.” Pet. Reply 10–13. Petitioner

IPR2014–00038
IPR2014–00699
Patent 6,628,314

specifically argues that Logan discloses a “DemographicMatch” function, where the “DemographicMatch” function “returns a value based on an[] advertiser specified relationship based on the subscriber’s personal [characteristics],” including age, sex, marital status, and size of household. Pet. Reply 12 (quoting Ex. 1002, col. 25, ll. 8–9). Petitioner also argues that Logan discloses a “DemographicWeight” value, which indicates the “relative importance of demographic values derived by the DemographicMatch function and the value returned by InterestMatch.” *Id.* (quoting Ex. 1002, col. 25, ll. 12–14). Petitioner concludes that the matching algorithm ultimately compares the subscriber’s characteristics with the target audience defined by the advertisement record to determine which of the advertisements to insert into Schedule Table 307, which subsequently is transferred to player 103. *Id.* (citing col. 16, l. 65 – col. 17, l. 1, col. 25, ll. 15–25).

We agree with Petitioner. Logan discloses that program, advertising, and announcement segments are used to form Schedule Table 307. Ex. 1002, col. 17, ll. 4–10. Program segments are selected for inclusion in Schedule Table 307 by comparing the contents of Programs Table 303, Subscribers Table 313, and Advertisements Table 311. *Id.* at col. 20, ll. 32–35. Program segments can contain advertising, entertainment, news, or other content. *Id.* at col. 24, ll. 62–66. Program Table 303 contains Program_Segment records that describe the nature of each programming, advertising, and announcement segment in the library. *Id.* at col. 17, ll. 11–15. A Program_Segment includes a Subjects field that indicates a value for predetermined subject matter categories, allowing each programming segment to be matched against like codes specified as being subjects of interest by the subscriber as well as codes indicating subjects to which advertised goods and

IPR2014-00038
IPR2014-00699
Patent 6,628,314

services may relate. *Id.* at col. 19, ll. 11-18. The Program_Segment includes Youngest and Oldest fields that contain an indication of the age range to which a program segment should appeal. *Id.* at col. 19, ll. 48-50. Similarly, the byte values Female and Male allow the entry of an estimate of the relative interest of a program to each of the sexes. *Id.* at col. 19, ll. 50-55.

Subscriber records include fields for birthdate, sex, marital status, and household size. *Id.* at col. 20, ll. 46-49. This information is used in better selecting program material of possible interest to the subscriber. *Id.* at col. 21, ll. 12-17. Advertisement records include fields for DemographicMatch and DemographicWeight. *Id.* at col. 20, ll. 56-59.

Program segments that are included in Schedule Table 307 are identified by matching the attributes of the subscriber as defined in the Subscriber record (birthdate, sex, marital status, and household size) against the descriptions contained in the Program_Segment records (youngest, oldest, male, female, houselow, househigh) to identify programs and categories of programs likely to be of interest to a subscriber having those attributes. *Id.* at col. 22, ll. 64-67, col. 23, ll. 29-36. This relationship between the attributes of the subscriber and Program_Segment records is specified by the advertiser-supplied function DemographicMatch. *Id.* at col. 23, ll. 36-39.

In order to identify and insert advertising programming segments into Schedule Table 307, the system utilizes the description of the content of the advertisement from the Program_Segment record. *Id.* at col. 24, ll. 1-11. The DemographicMatch function returns a value based on the advertiser's specified relationship and the subscriber's personal characteristics (age, sex, marital status, size of household, etc.). *Id.* at col. 25, ll. 4-10. DemographicWeight is used to

IPR2014–00038
IPR2014–00699
Patent 6,628,314

specify the relative importance of the value derived from DemographicMatch. *Id.* at col. 25, ll. 11–14. Advertisements that have been scheduled for a subscriber are then prioritized based on the calculated weight assigned to each advertisement by matching algorithms that compare the characteristics of the subscriber with the makeup of the target audience defined by the fields of the Advertisement Record. *Id.* at col. 25, ll. 15–20. The advertisements then are inserted into the programming Sequence with the advertisement having the highest weight being scheduled first, such that the best fitting advertisements are included in the programming. *Id.* at col. 25, ll. 20–25.

Accordingly, we agree with Petitioner that program segments, including those that contain advertising content, first are scheduled or selected based on a comparison of the fields in the Program_Segment record, such as Youngest/Oldest, Male/Female, MaritalStatus, and HouseLow/HouseHigh, with the Subscriber record, including Birthdate, Sex, MaritalStatus, and Householdsize. Ex. 1002, col. 20, ll. 32–35, col. 22, ll. 64–67, col. 23, ll. 29–36, col. 24, ll. 1–11, col. 24, ll. 62–66. As discussed in our claim construction, we construe “demographic information” to include “characteristic information about a user that does not identify the user” and, therefore, the birthdate, sex, marital status, and household size of a subscriber are demographic information. *See* Section I.E.2. Accordingly, we agree with Petitioner that Logan discloses that advertisements are scheduled or selected based on the demographic information of a subscriber and target demographic information described in the Program_Segment record of a program segment that includes an advertisement, and, thus, Logan discloses “selecting advertising content for transfer to the computer in accordance with the demographic information.”

IPR2014–00038
IPR2014–00699
Patent 6,628,314

We further agree with Petitioner that once program segments have been scheduled or selected for inclusion into Schedule Table 307, the DemographicMatch and DemographicWeight functions prioritize the advertisements based on the calculated weight. Ex. 1002, col. 25, ll. 15–20. Logan discloses that the “advertisements are then preferably inserted into the programming Sequence with the advertisement having the highest weight being scheduled to occur first in the sequence, thereby insuring that the best fitting advertisements are included in the programming.” Ex. 1002, col. 25, ll. 20–25. That is, the sequence of the schedule is reordered such that the advertisements determined to be the “best fitting advertisements” are scheduled or selected to occur first. We agree with Petitioner that the reordering or reselecting of the sequence of scheduled program segments based on a prioritization function based on demographic information also meets the limitation “selecting advertising content for transfer to the computer in accordance with the demographic information.” Pet. Reply 12–13.

d. Adoption of the “Broadest Reasonable Interpretation” Standard

Patent Owner argues that the United States Patent and Trademark Office (“PTO”) does not have substantive rule-making authority and, accordingly, Patent Owner contends that the broadest reasonable construction standard should not apply and claim construction should be carried out in the same manner as applied in a judicial proceeding. PO Resp. 7–9. Patent Owner has not provided a claim construction as would have been carried out in a judicial proceeding or alleged any distinctions between the claim construction that would have been carried out in a judicial proceeding and the broadest reasonable construction. As such, Patent Owner’s argument does not articulate clearly how our determinations would be

IPR2014–00038
IPR2014–00699
Patent 6,628,314

different based a different claim construction standard. Accordingly, Patent Owner’s argument is tantamount to a request for an advisory opinion.

In any event, we disagree with Patent Owner. Our reviewing court has held that “Congress implicitly adopted the broadest reasonable interpretation standard in enacting the AIA,” and “§ 316 provides authority to the PTO to conduct rulemaking.” *In re Cuozzo Speed Techs., LLC*, No. 2014-1301, 2015 WL 448667, at *7–8 (Fed. Cir. Feb. 4, 2015). Accordingly, the “broadest reasonable interpretation standard affects both the PTO’s determination of whether to institute IPR proceedings and the proceedings after institution and is within the PTO’s authority under the statute.” *Id.*

3. Conclusion

We determine that Petitioner has demonstrated, by a preponderance of the evidence, that claim 11 is anticipated by Logan. Similarly, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that claims 12, 13, 18, and 20 are anticipated by Logan.

B. Obviousness of Claim 15 over Logan and Robinson

1. Robinson (Ex. 1003)

Robinson discloses a system for the display of advertising to users of an interactive communications medium. Ex. 1003, col. 1, ll. 12–13. The system tracks activities of a subject in an interactive communications medium, derives information from the activities, determines a community for the subject based on the derived information, and determines which advertisements to present to the subject based on the determined community. *Id.* at col. 3, l. 62 – col. 4, l. 6.

Tracking data can be stored locally on a user’s local computer. *Id.* at col. 7, ll. 26–28. A cookie can be generated and stored on the user’s computer. *Id.* at

IPR2014–00038
IPR2014–00699
Patent 6,628,314

col. 8, ll. 42–44. The cookie is the only way to associate information stored on the central server with that particular user. *Id.* The cookie contains the identifier of the user, and the user ID in the central database is updated with tracking information from the cookie. *Id.* at col. 10, ll. 11–14.

2. *Analysis*

Petitioner argues that Logan discloses every limitation of claim 15, except “storing a cookie on the computer.” Pet. 57–60. Petitioner argues that Robinson discloses this limitation. *Id.* Petitioner argues that a person with ordinary skill in the art would have been motivated to combine the cookie mechanism that stores a cookie locally on a user’s computer, as disclosed by Robinson, with Logan’s system in order to provide “a very high level of security.” Pet. 59–60 (citing Ex. 1004 ¶ 159 (citing Ex. 1003, col. 8, ll. 39–41)).

Patent Owner first argues that claim 15 would not have been obvious over Logan and Robinson because Logan fails to disclose the limitations of independent claim 11, from which claim 15 depends. PO Resp. 34–35. We are not persuaded that Logan does not disclose the limitations of claim 11 for the reasons discussed above, and, therefore, we are not persuaded by this argument for the same reasons. *See* Section II.A.2.

Patent Owner further argues that Petitioner’s articulated motivation for combining Logan and Robinson is “unadulterated hindsight” and a person with ordinary skill in the art would not have been motivated to combine a feature from a secondary reference simply because it provides an “advantage.” PO Resp. 35–36. Patent Owner argues that Petitioner fails to identify a security inadequacy in Logan that would have motivated a person of ordinary skill to seek different security options. Petitioner responds that Patent Owner’s argument is not supported by an

IPR2014–00038
IPR2014–00699
Patent 6,628,314

expert declaration or testimony, and, therefore, is mere attorney argument. Pet. Reply 13–14. Petitioner further responds that the motivation of enhanced security is provided by Robinson. *Id.* (citing Ex. 1003, col. 8, ll. 39–41; Ex. 1004 ¶ 159).

We disagree with Patent Owner. We are persuaded by Petitioner that a person with ordinary skill in the art would have been motivated to modify Logan with Robinson’s cookie mechanism in order to increase security by storing information locally on a user’s computer. Pet. 59–60. An increase in security is an advantage derived from combining Logan and Robinson and is disclosed expressly by Robinson, and, therefore, is an articulated reasoning with a rational underpinning for combining the references. *See KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). Furthermore, Petitioner establishes that the motivation to increase security is disclosed expressly by Robinson. Pet. 59–60 (citing Ex. 1003, col. 8, ll. 39–41). Thus, this motivation was known at the time of the ’314 patent and, therefore, we do not consider Petitioner’s rationale as improper hindsight.

3. Conclusion

We determine that Petitioner had demonstrated, by a preponderance of the evidence, that claim 15 would have been obvious over Logan and Robinson.

C. Patent Owner’s Motion to Amend

Patent Owner proposes substitute claims 23–34, contingent in the “event that original claim 11 is found to be not patentable.” Mot. to Amend 1. As discussed above, Petitioner has demonstrated by a preponderance of the evidence, that all of the challenged claims are unpatentable. Therefore, Patent Owner’s contingent Motion to Amend is before us for consideration.

As the moving party, Patent Owner bears the burden of proof to establish that it is entitled to the relief requested. 37 C.F.R. § 42.20(c). Entry of the

IPR2014-00038
IPR2014-00699
Patent 6,628,314

proposed amendment is not automatic, but only upon Patent Owner's having demonstrated the patentability of those claims.

1. Substitute Claims 23-34

Independent claim 23, proposed substitute for independent claim 11, is reproduced below:

23. (Proposed substitute for original claim 11) A method of providing demographically-targeted advertising to a computer user, comprising the steps of:

- providing a server that is accessible via a computer network, permitting a computer user to access said server via said computer network,

- acquiring demographic information about the user, said demographic information including information specifically provided by the user in response to a request for said demographic information,

- providing the user with download access to computer software that, when run on a computer, displays advertising content, records computer usage information concerning the user's utilization of the computer, and periodically requests additional advertising content, wherein the computer usage information comprises information about the user's interactions with said computer software displaying advertising content and at least one other program,

- transferring a copy of said software to the computer in response to a download request by the user,

- providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server,

- associating said unique identifier with demographic information in a database,

- ~~selecting advertising content for transfer to the computer in accordance with demographic information associated with said unique identifier;~~

- ~~transferring said advertising content from said server to the computer for display by said program,~~

IPR2014–00038
IPR2014–00699
Patent 6,628,314

periodically acquiring said unique identifier and said computer usage information recorded by said software from the computer via said computer network, ~~and~~

associating said computer usage information with said demographic information using said unique identifier,

selecting advertising content for transfer to the computer in accordance with real-time and other computer usage information and demographic information associated with said unique identifier, and transferring said advertising content from said server to the computer for display by said program.

Substitute claims 24–34, recite the same limitations as original claims 12–22 but depend from substitute claim 23.

2. Claim Construction

Claim construction is an important step in a patentability determination. *Oakley, Inc. v. Sunglass Hut Int’l*, 316 F.3d 1331, 1339 (Fed. Cir. 2003); *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003) (“Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims The second step in the analyses requires a comparison of the properly construed claim to the prior art.” (internal citations omitted)). A motion to amend claims must identify how the proposed substitute claims are to be construed, especially when the proposed substitute claims introduce new claim terms. *See Idle Free Sys., Inc. v. Bergstrom, Inc.*, Case IPR2012-00027, slip op. at 7 (PTAB June 11, 2013) (Paper 26) (informative).

Patent Owner discusses that substitute claim 23 introduces the additional elements of “wherein the computer usage information comprises information about the user’s interactions with said computer software displaying advertising content and at least one other program” and the selecting of advertising content step is in

IPR2014–00038
IPR2014–00699
Patent 6,628,314

accordance with “real-time and other computer usage information.” Mot. to Amend 6 (emphasis omitted). Patent Owner argues that these features distinguish the proposed substitute claims from all of the cited prior art. *Id.* at 13.

Patent Owner, however, does not provide claim constructions for how the new claim terms should be construed. For example, Patent Owner does not provide any discussion or explanation as to how the limitation “selecting advertising content for transfer to the computer in accordance with real-time” is to be construed. Absent a proposed claim construction for this limitation, it is unclear as to whether the “selecting” or “transfer” is in accordance with “real-time.” Accordingly, Patent Owner’s Motion to Amend does not provide adequate information for us to determine whether the substitute claims are patentable over the prior art. Therefore, we are not persuaded that Patent Owner has met its burden to demonstrate the patentability of the proposed substitute claims under 37 C.F.R. § 42.20(c).

3. *Written Description*

A motion to amend claims must identify clearly the written description support for each proposed substitute claim. 37 C.F.R. § 42.121(b). The requirement that the motion to amend must set forth the support in the original disclosure of the patent is with respect to *each claim*, not for a particular feature of a proposed substitute claim. The written description test is whether the original disclosure of the application relied upon reasonably conveys to a person of ordinary skill in the art that the inventor had possession of the claimed subject matter as of the filing date. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). Thus, the motion should account for the claimed subject matter as a whole, i.e., the *entire* proposed substitute claim, when showing

IPR2014-00038
IPR2014-00699
Patent 6,628,314

where there is sufficient written description support for each claim feature. *See Nichia Corp. v. Emcore Corp.*, Case IPR2012-00005, slip op. at 4 (PTAB June 3, 2013) (Paper 27) (representative).

Patent Owner points to several passages of the “as-filed version” of the ’314 patent application for support for substitute claim 23. Mot. to Amend 6–7. Patent Owner, however, fails to point out with any particularity or explanation as to where in the several cited passages the additional limitations are supported. Patent Owner further fails to provide citations and explanations for support for substitute claims 24–34. For example, it is unclear from Patent Owner’s discussion in which passage there is support for the limitation “selecting advertising content for transfer to the computer in accordance with real-time.” We have reviewed the passages cited by Patent Owner and are unable to discern readily where support for this limitation is found. Accordingly, we are not persuaded that Patent Owner has met its burden to demonstrate written description support for each proposed substitute claim as required by 37 C.F.R. § 42.121(b)(1) and § 42.121(b)(2).

4. Conclusion

For the foregoing reasons, Patent Owner has not satisfied its burden of proof and, accordingly, Patent Owner’s Motion to Amend is denied.

III. CONCLUSION

We conclude that Petitioner has demonstrated by a preponderance of the evidence that (1) claims 11, 12, 13, 18, and 20 are anticipated by Logan and (2) claim 15 would have been obvious over Logan and Robinson.

This is a final written decision of the Board under 35 U.S.C. § 318(a). Parties to the proceeding seeking judicial review of this decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2014-00038

IPR2014-00699

Patent 6,628,314

IV. ORDER

Accordingly, it is hereby:

ORDERED that claims 11, 12, 13, 15, 18, and 20 of U.S. Patent No. 6,628,314 are held unpatentable; and

FURTHER ORDERED that Patent Owner's Motion to Amend is *denied*.

IPR2014-00038

IPR2014-00699

Patent 6,628,314

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(12) **United States Patent**
Hoyle

(10) **Patent No.: US 6,628,314 B1**
(45) **Date of Patent: Sep. 30, 2003**

(54) **COMPUTER INTERFACE METHOD AND APPARATUS WITH TARGETED ADVERTISING**

(75) Inventor: **Martin David Hoyle**, Destrehan, LA (US)

(73) Assignee: **B.E. Technology, LLC**, Bay City, MI (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 436 days.

(21) Appl. No.: **09/699,705**

(22) Filed: **Oct. 30, 2000**

Related U.S. Application Data

(62) Division of application No. 09/118,351, filed on Jul. 17, 1998, now Pat. No. 6,141,010.

(51) **Int. Cl.⁷** **G06F 3/00**

(52) **U.S. Cl.** **345/854; 345/853**

(58) **Field of Search** 345/854, 839, 345/764, 781, 853, 835; 705/14, 26; 715/501.1, 514

References Cited

U.S. PATENT DOCUMENTS

5,937,392 A * 8/1999 Alberts 705/14
5,948,061 A * 9/1999 Merriman et al. 709/219

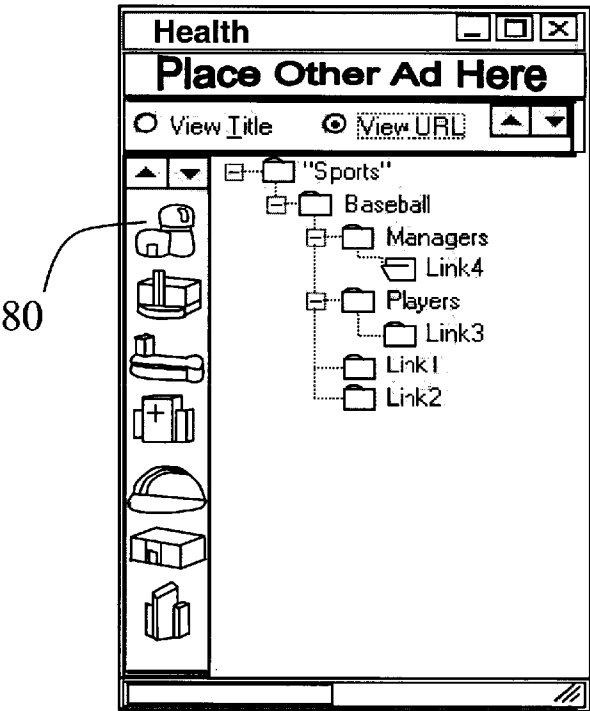
* cited by examiner

Primary Examiner—Cao (Kevin) Nguyen
(74) *Attorney, Agent, or Firm*—Reising, Ethington, Barnes, Kisselle, P.C.

(57) **ABSTRACT**

A method and apparatus for providing an automatically upgradeable software application that includes targeted advertising based upon demographics and user interaction with the computer. The software application is a graphical user interface that includes a display region used for banner advertising that is downloaded from time to time over a network such as the Internet. The software application is accessible from a server via the Internet and demographic information on the user is acquired by the server and used for determining what banner advertising will be sent to the user. The software application further targets the advertisements in response to normal user interaction, or use, of the computer. Associated with each banner advertisement is a set of data that is used by the software application in determining when a particular banner is to be displayed. This includes the specification of certain programs that the user may have so that, when the user runs the program (such as a spreadsheet program), an advertisement will be displayed that is relevant to that program (such as an advertisement for a stock brokerage). This provides two-tiered, real-time targeting of advertising—both demographically and reactively. The software application includes programming that accesses the server on occasion to determine if one or more components of the application need upgrading to a newer version. If so, the components are downloaded and installed without requiring any input or action by the user.

22 Claims, 14 Drawing Sheets



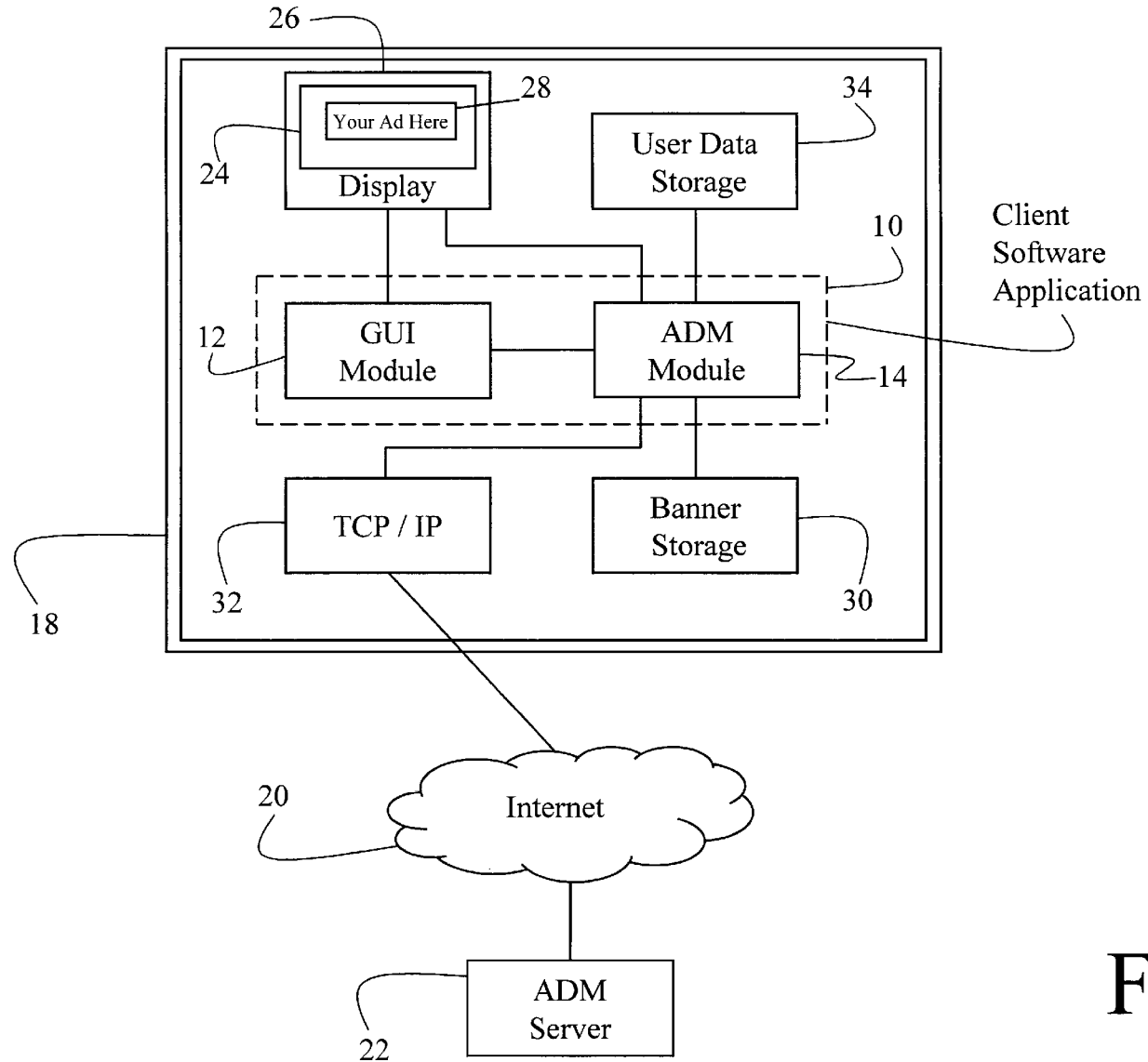


FIG. 1

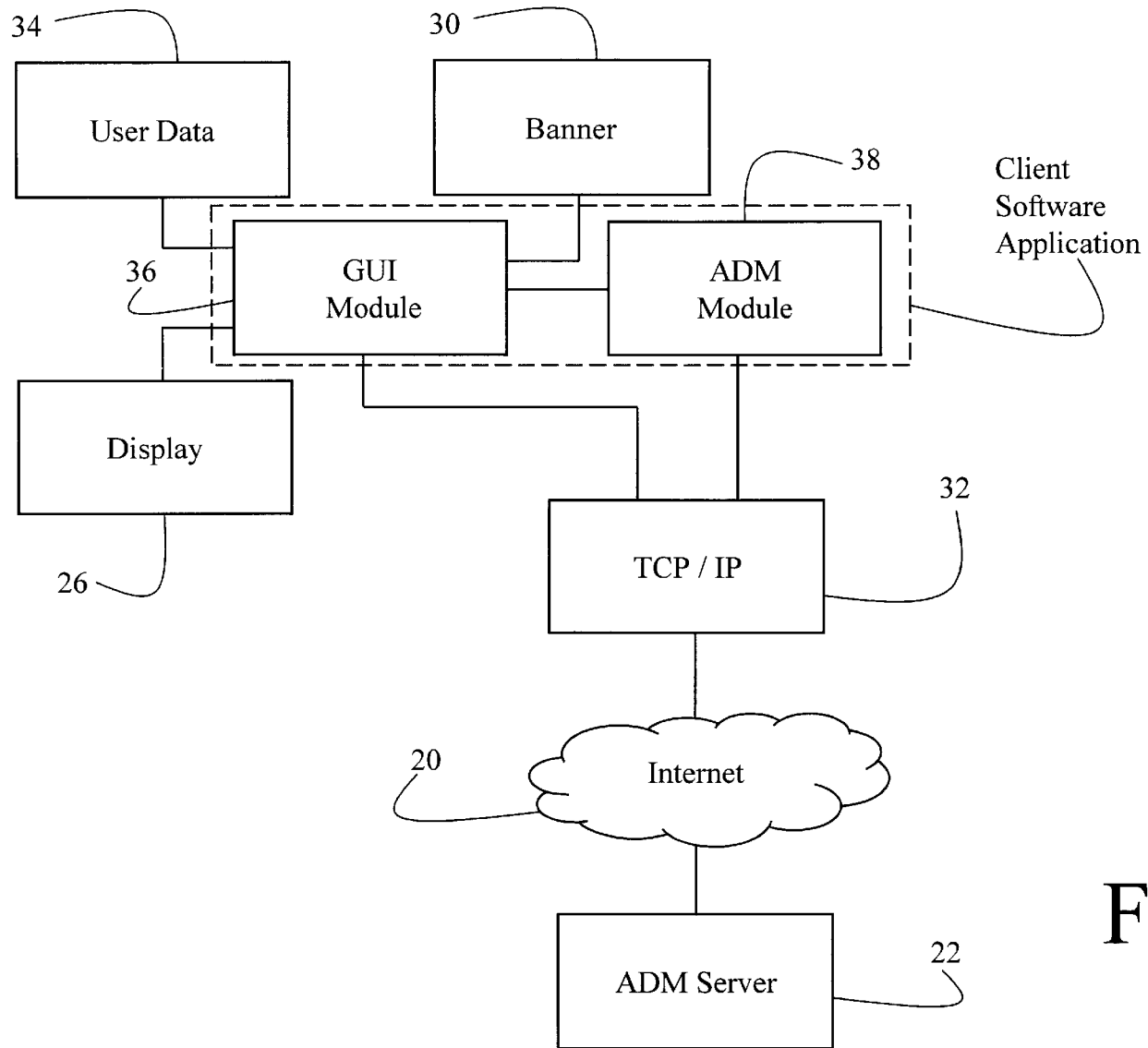


FIG. 2

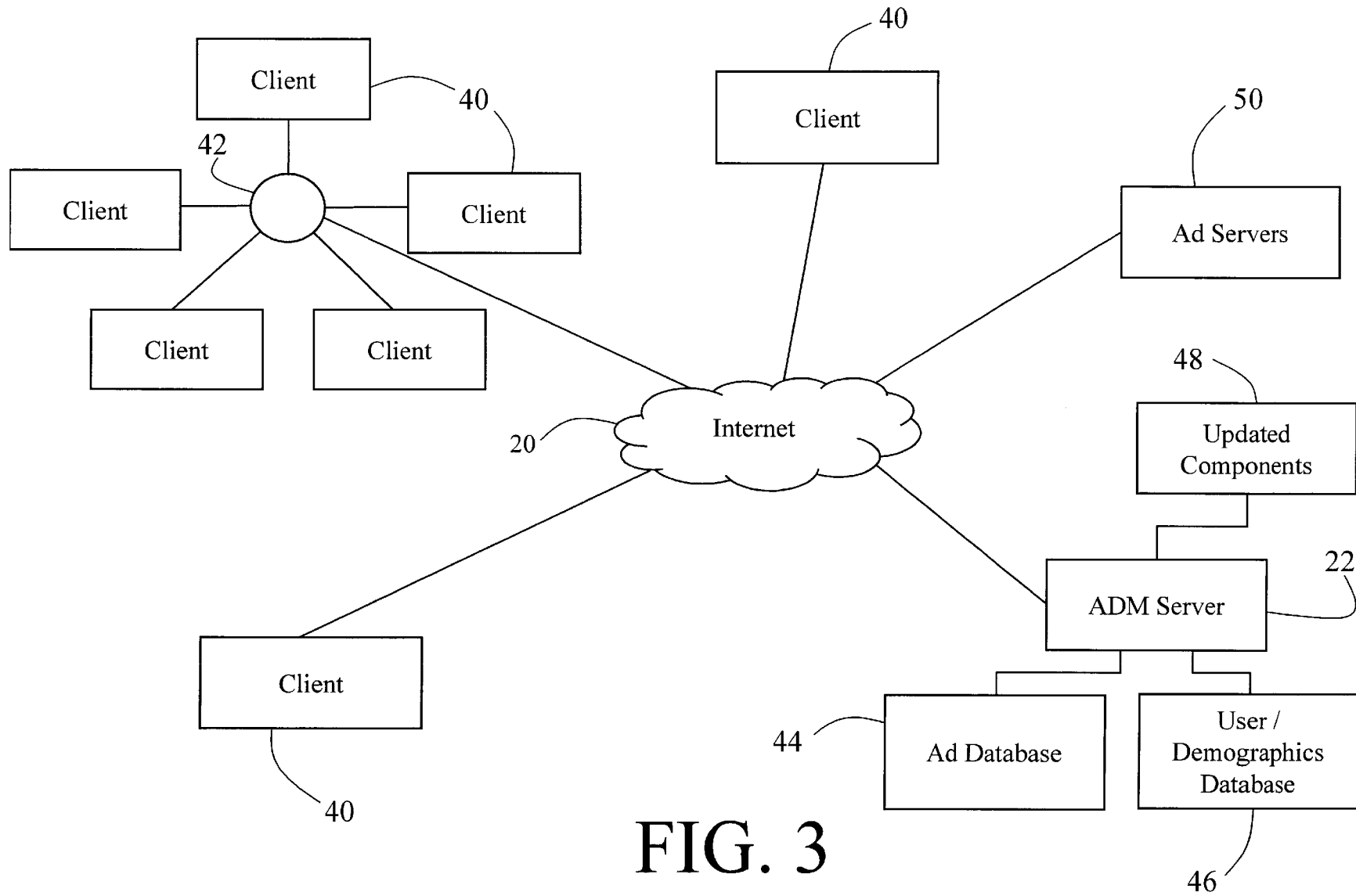


FIG. 3

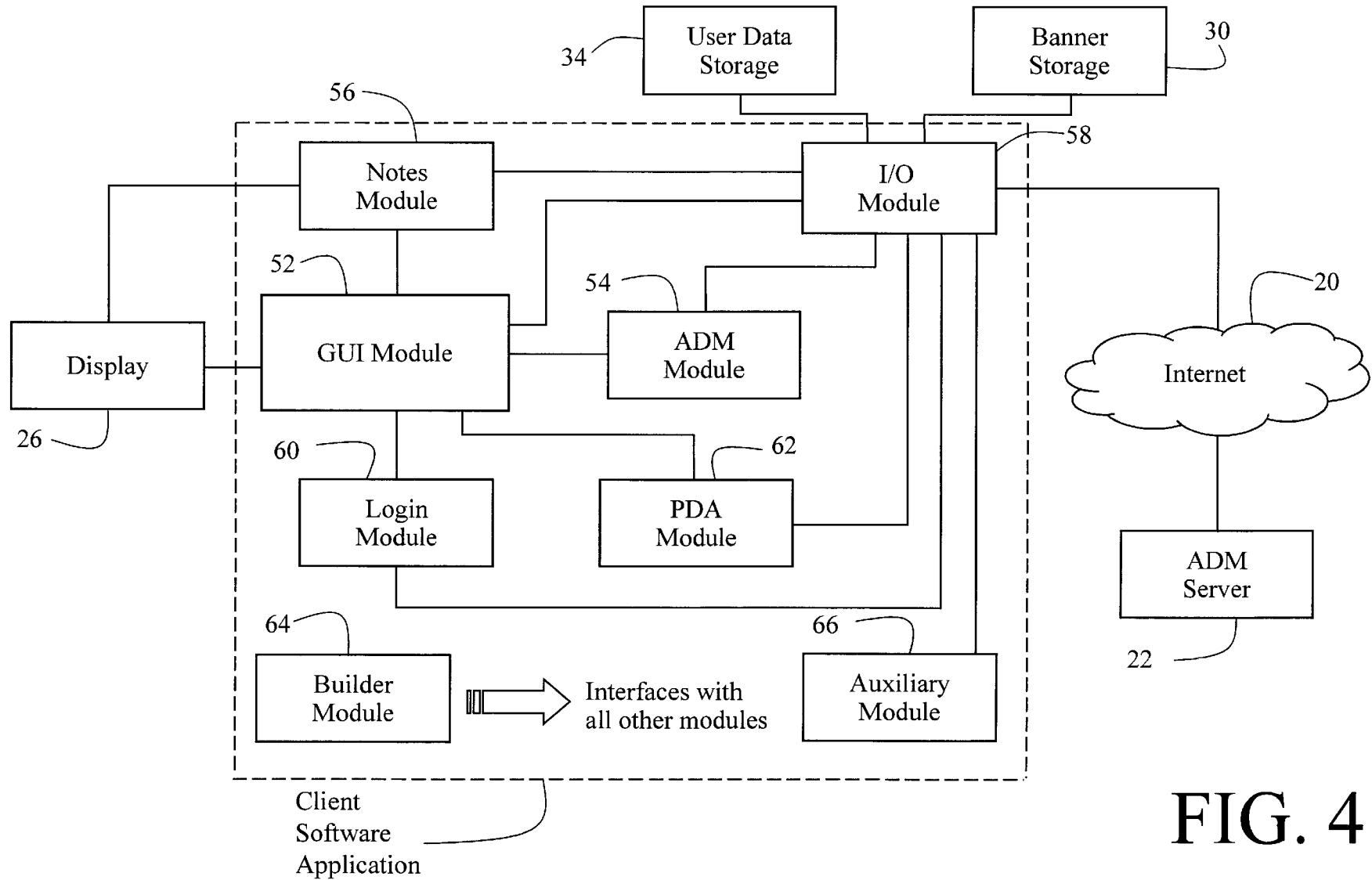
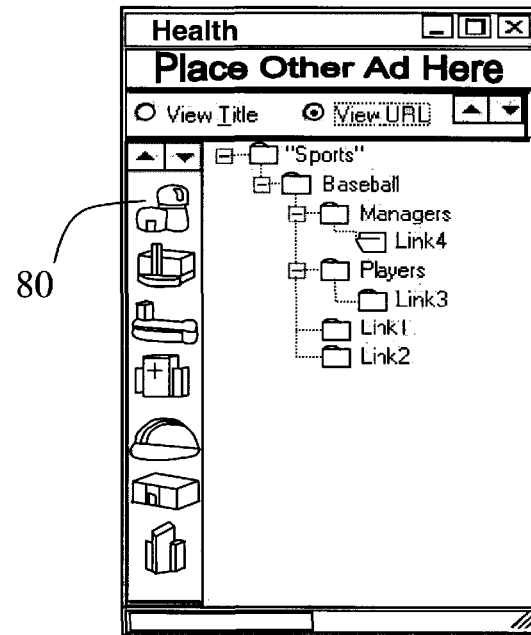
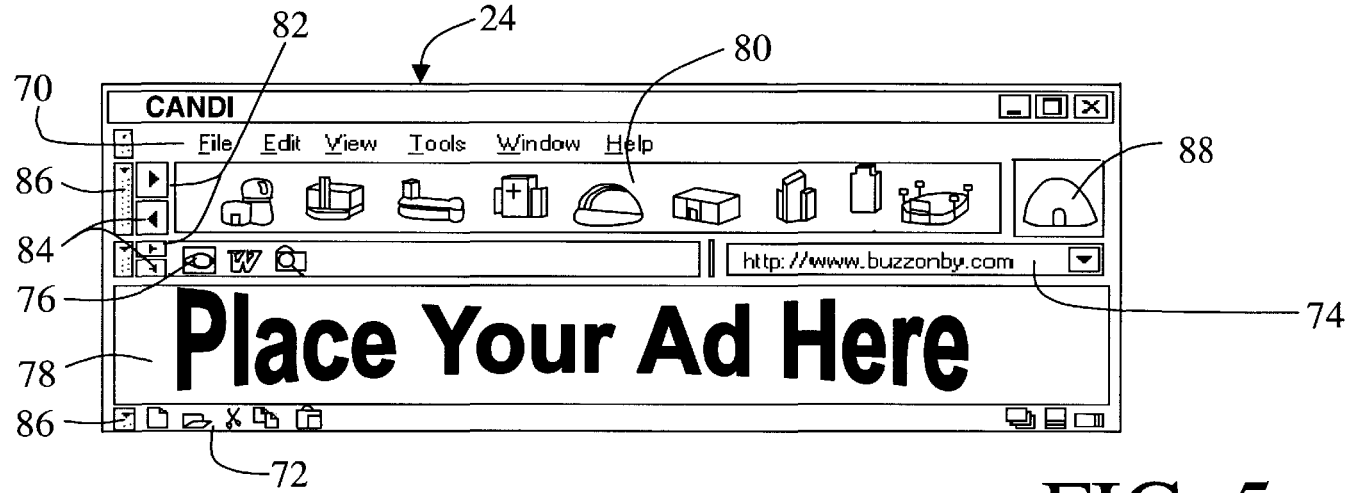


FIG. 4



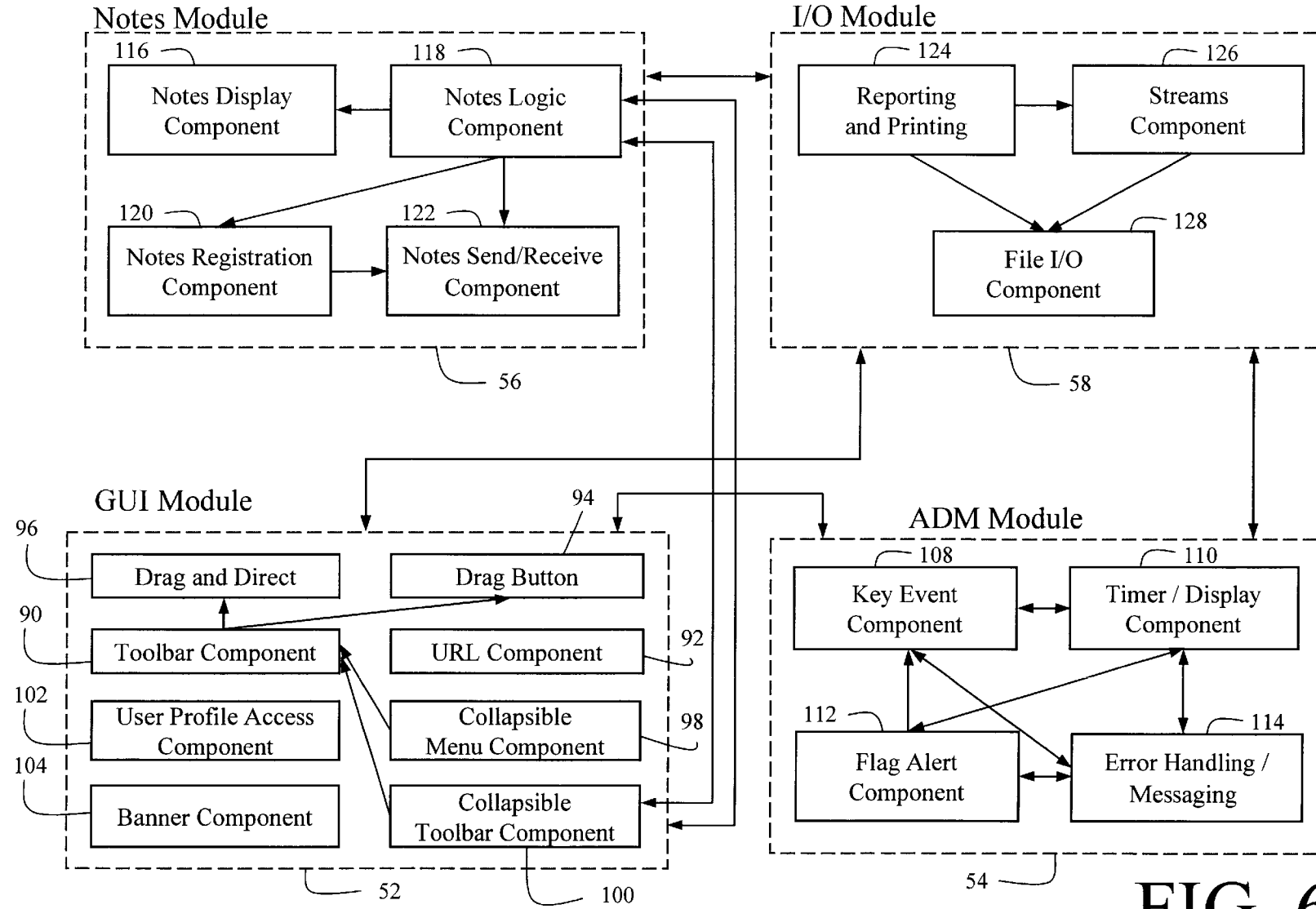


FIG. 6

Image File	Destination Link	Associated Categories	Associated Links	Associated Programs	Priority Level
Banner01.gif	www.first_link.com	business, finance	www.microsoft.com\excel www.lotus.com\123	Excel™, 123™	General
Banner02.gif	www.second_link.com \ products	business, shopping, computers		Control Panel\System	High
Banner03.gif	third_link.com	sports	www.nfl.com www.espn.com www.sports.com		Medium
:	:	:	:	:	:
:	:	:	:	:	:
BannerXX.gif	www.last_link.com\cgi\login	travel, entertainment			High

FIG. 7

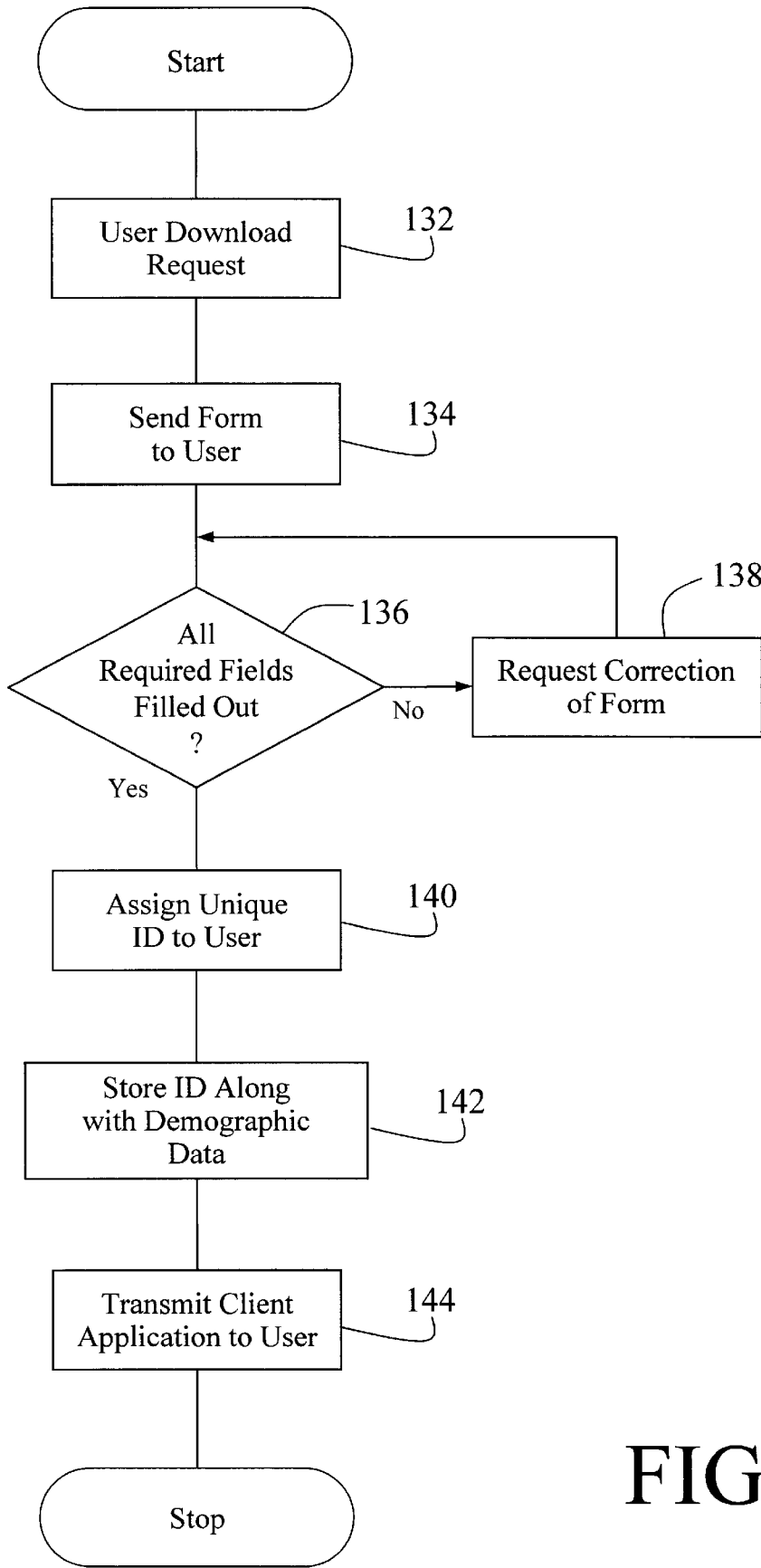


FIG. 8

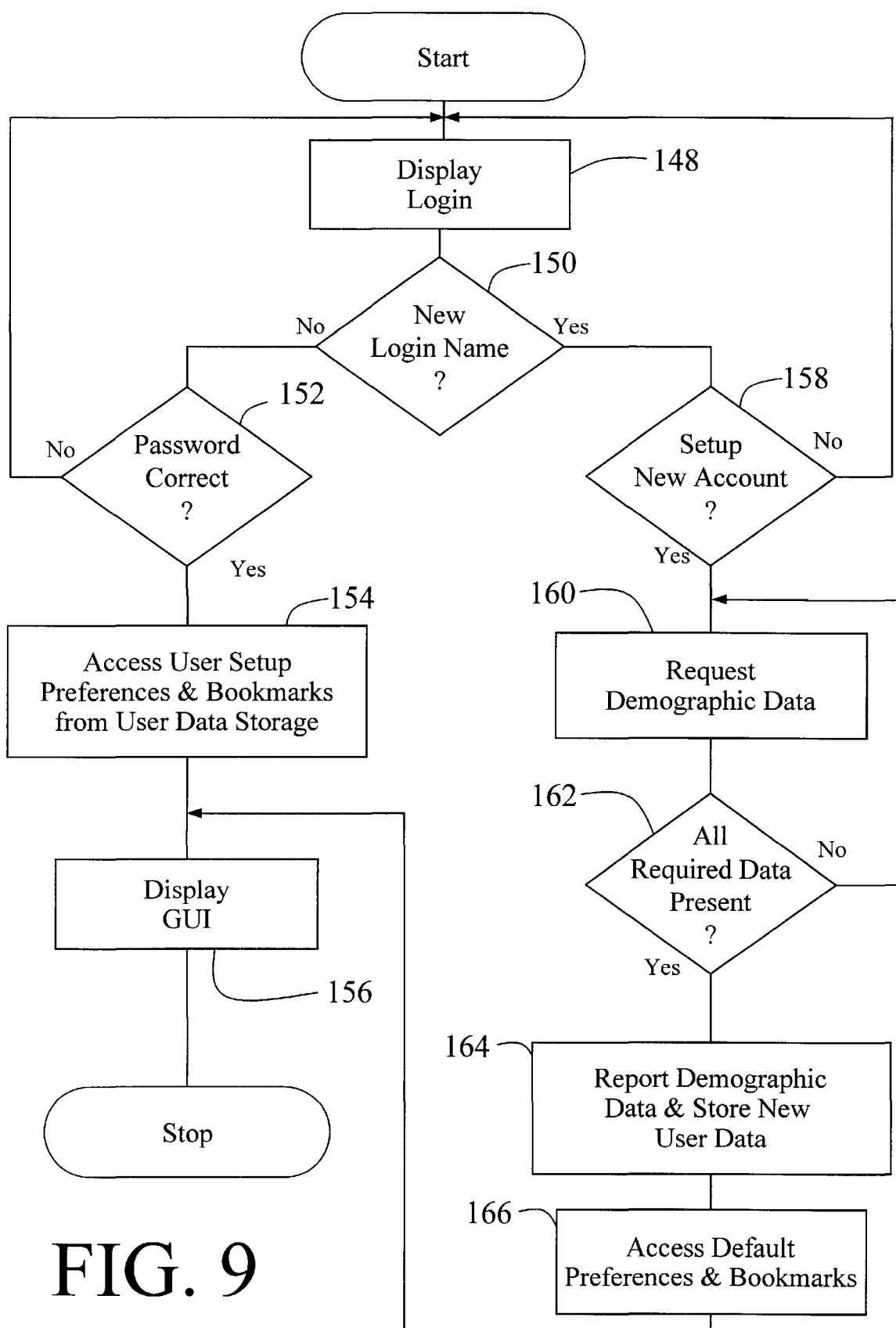


FIG. 9

FIG. 10

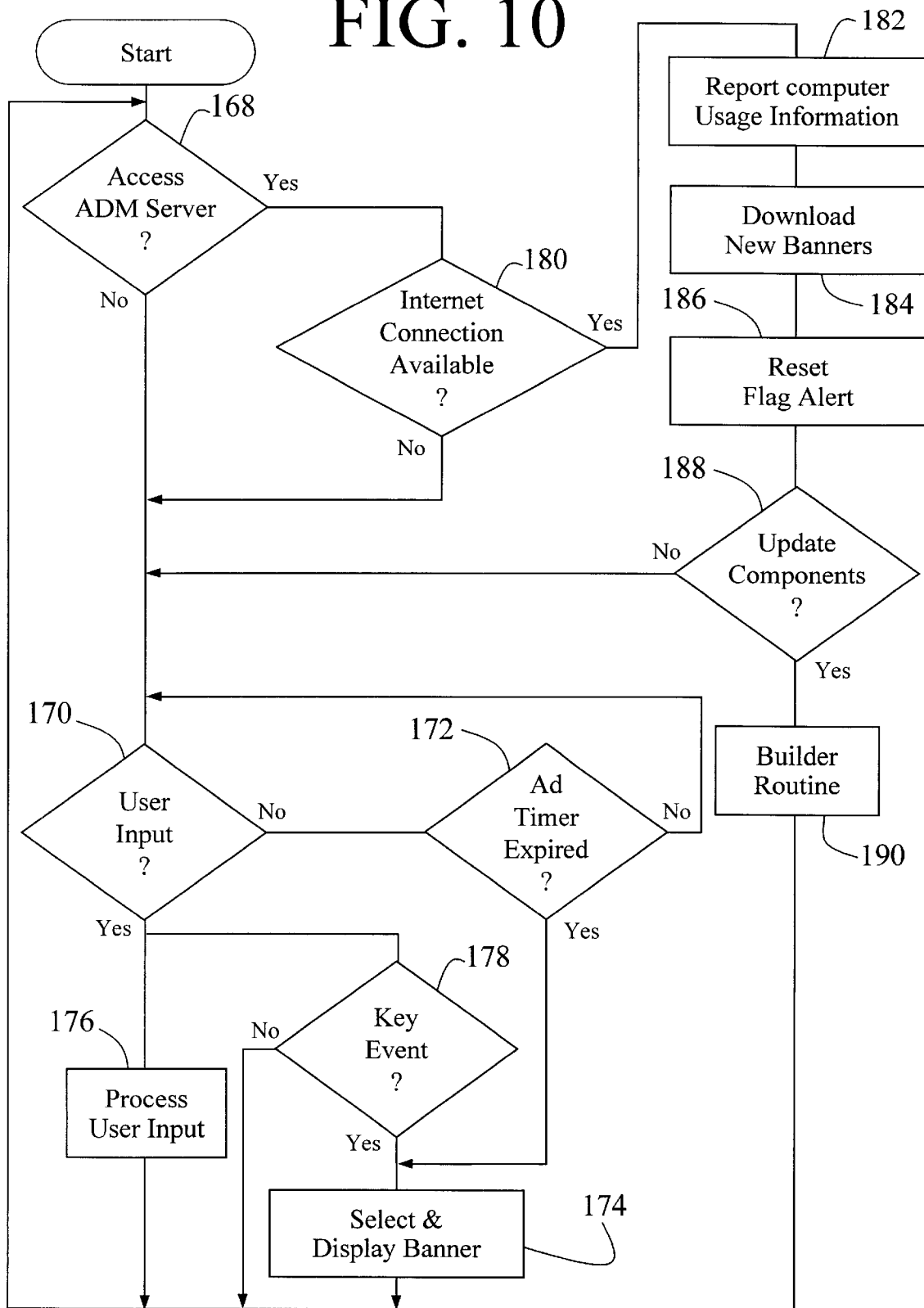


FIG. 11

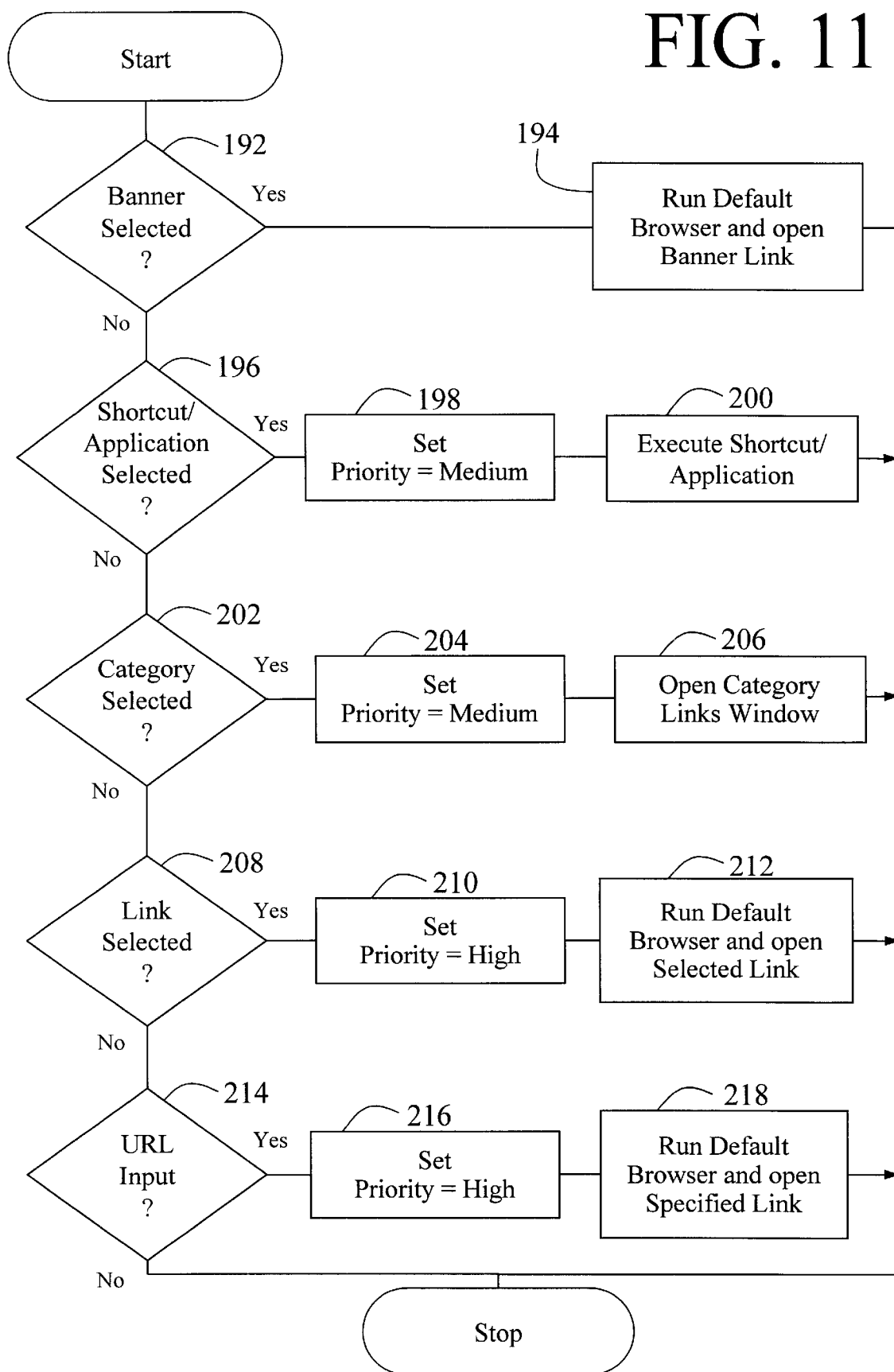


FIG. 12

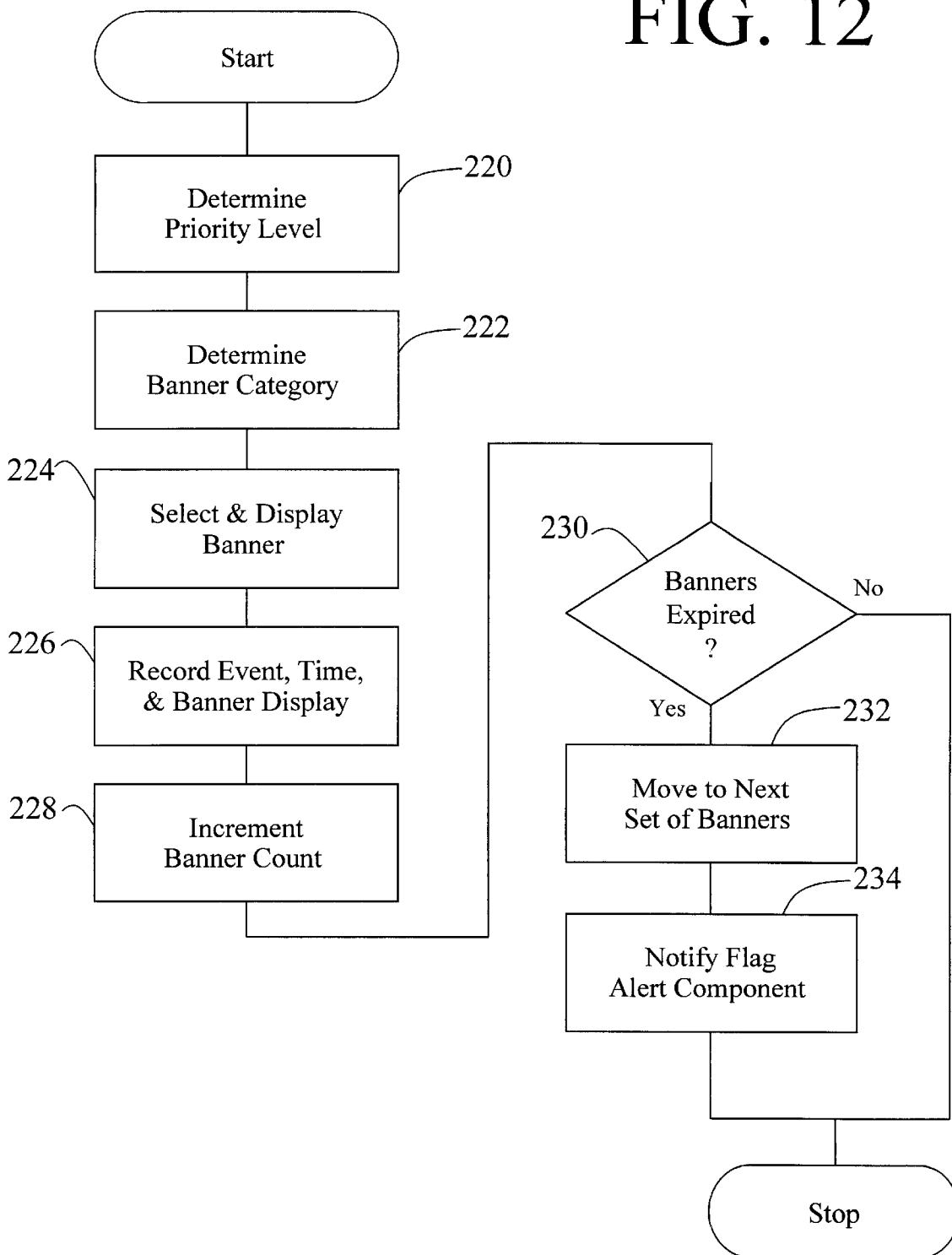


FIG. 13

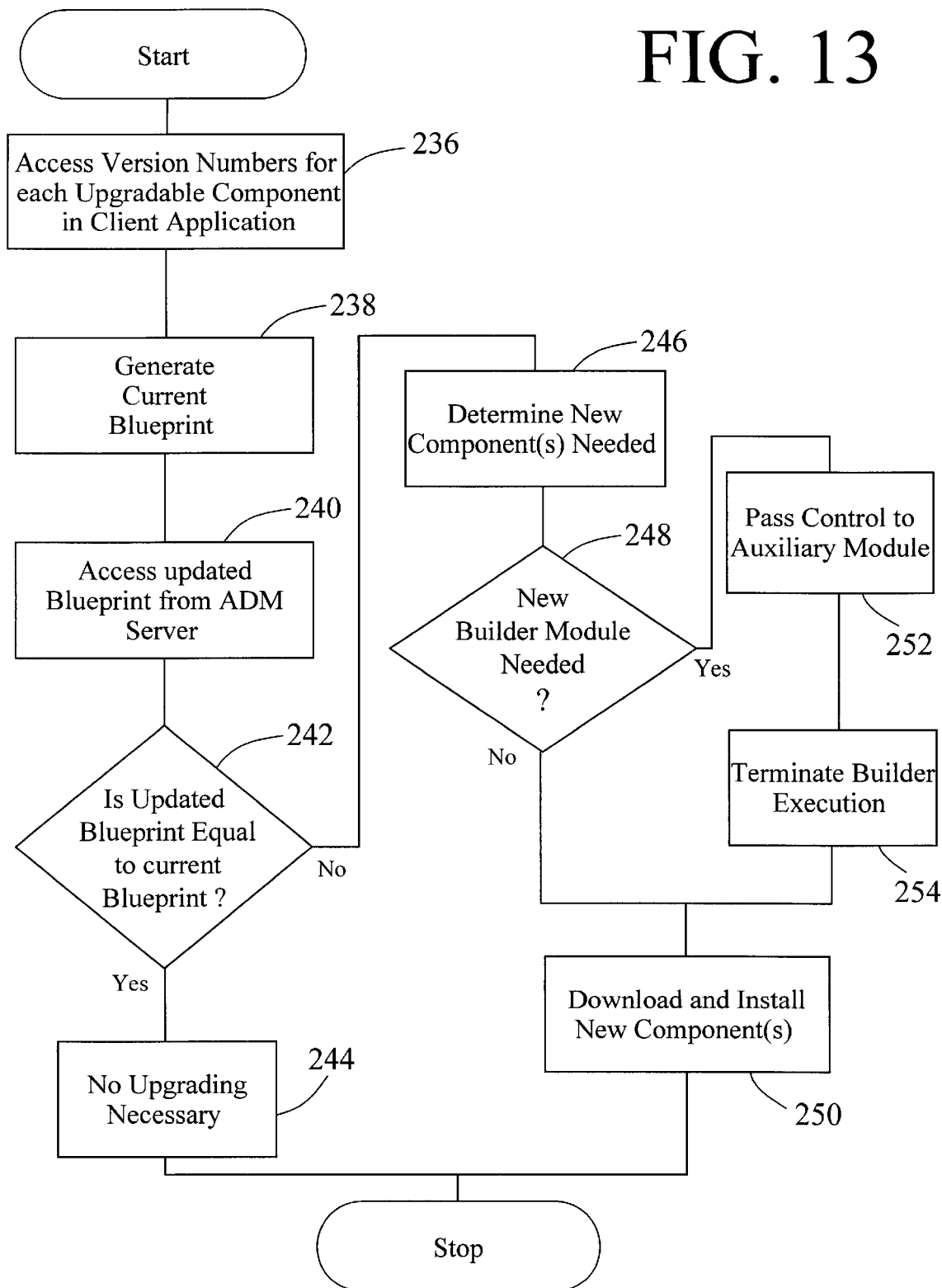
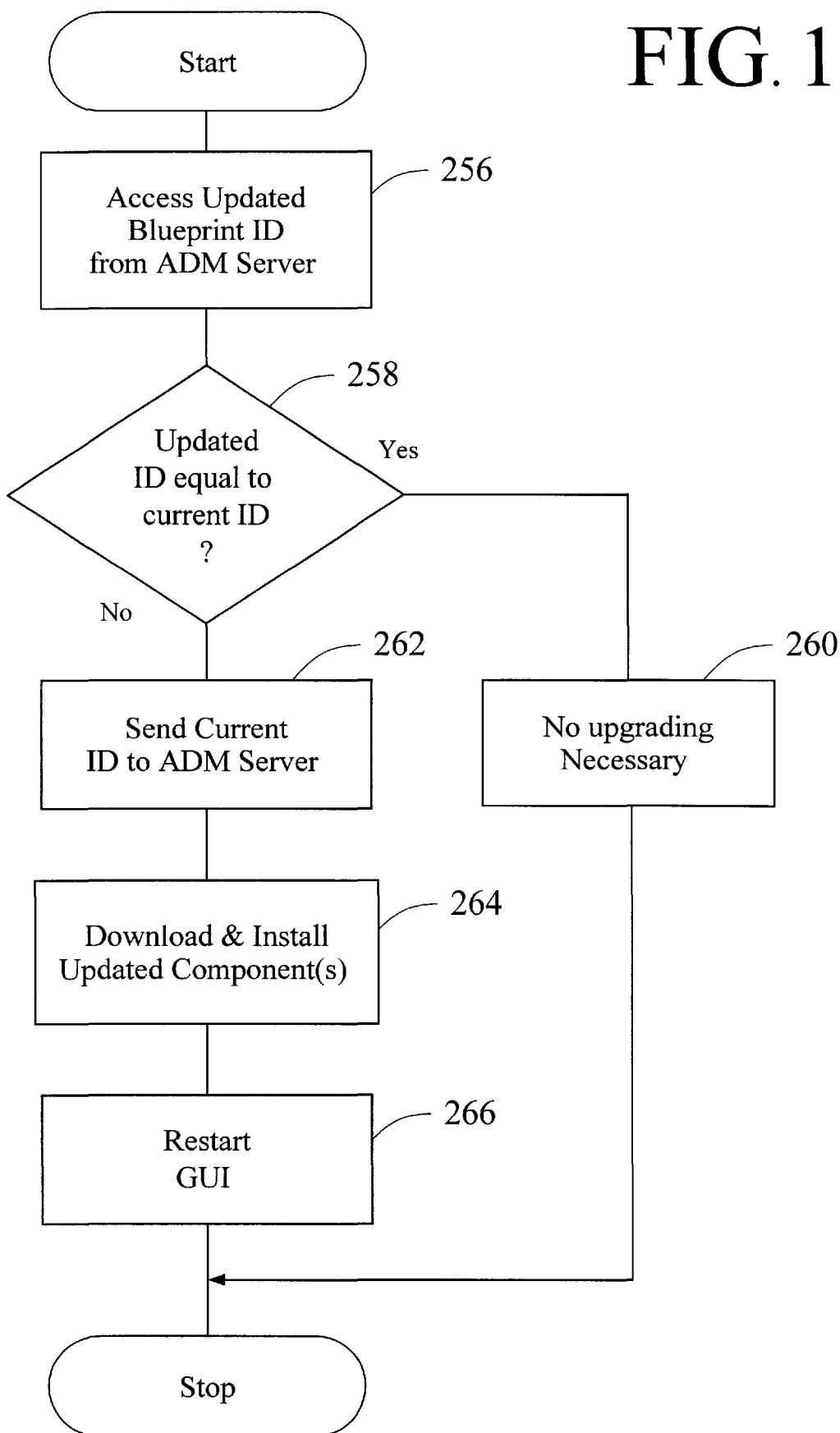


FIG. 14



US 6,628,314 B1

1

COMPUTER INTERFACE METHOD AND APPARATUS WITH TARGETED ADVERTISING

CROSS-REFERENCE TO RELATED APPLICATION

This application is a divisional of U.S. Ser. No. 09/118, 351, filed Jul. 17, 1998, now U.S. Pat. No. 6,141,010.

TECHNICAL FIELD

This invention relates in general to user interfaces for accessing computer applications and information resources and, in particular, to user interfaces that provide advertising obtained over a global computer network such as the Internet.

BACKGROUND OF THE INVENTION

The continuing expansion of the Internet and other private and semi-private networks has led to the now widespread practice of electronic distribution of software to end users, whether as freeware, shareware, or fully paid-up licensed software. Traditionally, freeware programs have generally been small, unsupported single-purpose programs that are of limited use. Since no income was derived from these programs, there was little incentive for the creators of this type of software to undertake major development efforts. More recently, however, a new type of free software has emerged which, while free to end users, does provide income to the creator of the software via advertising incorporated into the software. This is of benefit both to the end user and advertiser, as the end user obtains useful software at no cost and the advertiser gets advertising exposure for its products or services. One well known example of this type of arrangement is in push technology products, such as Pointcast™, which permits a user to receive and display broadcasted information over the Internet. Using this software, new advertising is periodically received along with various requested types of news information (e.g., financial, business, sports) and is stored locally on the user's computer for later retrieval and display by the program.

The new advertising medium provided by the Internet has a number of significant advantages for advertisers. First, the users of the software within which the advertising is placed have, on average, much more disposable income to spend on products and services than the average user of other traditional advertising media, such as television or print. Second, the advertising can, in some instances, be targeted in various ways, such as demographically or reactively. An example of the latter of these is in push technology where the user requests certain types of information and this request is used to select the type of advertisement sent to the user along with the requested content. Third, the advertising can not only include audio and video elements as well as simple visual elements, but can also be interactive. For example, by clicking on the advertisement, the user can be provided with additional information about the advertised products or services and can even be given the opportunity to purchase the products or services electronically.

One of the most common methods of advertising via the Internet is through the use of links (e.g., URLs) embedded within web pages. By using embedded links, the advertisements need not be located on the same server as the web pages themselves. When the web page is loaded or reloaded, the advertising server is accessed to obtain a new advertisement which is incorporated into the web page displayed on

2

the user's screen. These advertisements are simple graphical images (such as animated gifs) that are retrieved from the advertising server along with an associated link to additional information about the advertised product or service. While this permits new advertising to be displayed each time a web page is loaded or refreshed, and while this allows geographically unlimited advertising, it at most permits targeting of the advertisement based upon the type of information contained in the web page. Moreover, access to a new advertisement is only available during the period of time that the client computer is connected to the Internet.

Currently-available computer programs that incorporate advertising into their user interface include the necessary programming built into the software itself. That is, the various parameters relating to the presentation of the advertisement is pre-determined and programmed into the software. These parameters may include such things as where on the screen the advertisement is displayed, the display size, the duration of display, the number of times a particular advertisement is displayed, the conditions under which a particular advertisement is to be displayed, the type of action taken upon a user clicking on the advertisement, and so forth. One problem with these currently available programs is that these parameters can only be changed by replacement of the entire program with an updated, revised version, making it difficult to respond to desired changes in advertising approaches.

To provide demographically-targeted advertising, the advertiser or distributor of the advertising must obtain demographic data on its end users. Perhaps the most common way to acquire demographic data regarding users via the Internet is to request the information using a form written in html (HyperText Markup Language) and provided to the user over the World-Wide Web (WWW) using http (HyperText Transfer Protocol). This is sometimes done as a prerequisite to allowing the user access to information resources or download software from a particular web site. While authentication of demographic information obtained this way is difficult and rarely done, it has been found that end users typically provide accurate demographic data in return for free download access to software. Furthermore, studies have shown that while people are concerned about privacy issues and, in particular, do not wish to provide specific information that identifies them (such as their name, address, or Social Security number), they generally do not mind providing demographic information, nor do they mind monitoring of their computer usage as long as their usage is not associated with any specific information that could be used to identify them.

Various other arrangements have been suggested for obtaining and reporting information about an end user over a computer network such as the Internet. For example, U.S. Pat. No. 5,724,521 to Dedrick discloses an electronic advertising system in which a user profile is created and transferred to a metering server where it is used along with other end user profiles to charge advertiser's according to a consumer scale. The profile data is also used by the metering server to select advertisement titles that are sent to the end user for viewing at the request of the end user. When a user requests an advertisement, the metering server sends the advertisement to the end user, charges the advertiser, and provides the advertiser with profile data on that end user. The system can include client-side software which acquires and compiles information concerning the user's interaction with the advertising or other content provided by the metering server.

U.S. Pat. No. 5,732,218 to Bland et al. discloses a system for gathering data concerning an end-user's access to infor-

US 6,628,314 B1

3

mation resources and reporting the data back to the servers that contain the information resources. Data gathering at the client is accomplished using an applet, plug-in, or other browser extension that acquires the data and then reports that data to those servers accessed by the client, either periodically or in response to a specific request by the servers. In this way, the servers being accessed for their information resources get reported back to them information concerning the end-user's use of that information. Limited demographic information (e.g., time zone, locale, client hardware) can be included in this reporting as well.

One of the disadvantages of prior art systems that acquire data regarding an end-user's computer usage is that they are generally limited to gathering information concerning only certain limited uses of the computer. For example, in Bland et al., the focus of the gathering and use of end-user data is in the user's interaction with web pages, whether over the Internet or otherwise. Similarly, in Dedrick, the compilation of data is directed to interaction between the end-user and the advertising or other content provided by the metering server itself. By limiting the reported data in this manner, it is difficult to develop accurate profiles for the individual users that are useful in targeting the advertising.

U.S. Pat. No. 5,347,632 to Filepp et al. discloses a reception system in which both user demographics and individual system usage information can be used to target advertising. However, this information is used to select which advertisements are to be placed into an advertisement queue from which advertisements are then accessed, apparently in the order in which they were placed in the queue. Thus, this system permits targeting of advertising generally, but does not provide real time targeting of advertising based upon user actions.

Except as may be explicitly indicated otherwise, the following definitions shall apply:

computer—An apparatus having a processing device that is capable of executing instructions.

computer usage information—Data concerning a person's use of a computer, including such things as what programs they run, what information resources they access, what time of day or days of the week they use the computer, and so forth.

data set—A group of data items; for example, links, keywords, or entries in an address book.

display object—Data capable of display by a computer, including graphical images as well as multimedia presentations or other display data that includes audio in addition to visually-perceived data.

graphical image—Visually-perceived data stored in a graphic format (e.g., jpeg, gif, bmp, tiff, pcx, etc.), including electronically-reproduced photographs, graphics, animations, icons, and textual messages.

information resource—A source of information stored on a server or other computer that is accessible to other computers over a network.

keyword—A textual data item used in locating related sources of information

link—A data item that identifies the location or address of a program or information resource. A URL is a link, as is a path and filename of an information resource.

non-volatile data storage device—A memory device that retains computer-readable data or programming code in the absence of externally-supplied power, including such things as a hard disk or a floppy disk, a compact disk read-only memory (CDROM), digital versatile disk (DVD), magneto-optical disk, and so forth.

program component—A set of instructions stored in a file in computer-readable format, whether as object code or

4

source code, and whether written in a compiled language, in byte code (such as Java™), or in a scripting or other interpreted language.

program module—One or more related program components.

program—One or more related program modules.

reactively—in response to some type of user input, such as a mouse click on a particular user application or on a link to an information resource

server—A computer on a network that answers requests for information.

software application—A program and associated libraries and other files; for example, a word processing application, a spreadsheet application, or a personal information management application.

SUMMARY OF THE INVENTION

In accordance with one aspect of the present invention there is provided an apparatus for use by a computer to provide a user of the computer with access to information resources via the Internet or otherwise. The apparatus comprises a non-volatile data storage device with first and second program modules stored on the non-volatile storage device. The first program module is operable upon execution to display a graphical user interface comprising a window separated into a number of regions, with a first one of the regions including a number of user-selectable items, at least some of which are each associated with a different data set. The data sets are each representative of a different category of information (e.g., financial, news, sports, etc.) and each of the data sets comprise a number of user-selectable links to different information resources. For example, the data sets can be groups of related URLs, whereby the information resources comprise web pages accessible via the Internet. A second one of the regions comprises an information display region which can display such things as banner advertisements. The second program module is operable upon execution to select informational data to be displayed in the information display region. The first program module is operable in response to selection of a first one of the links to provide the user with access to its associated information resource and to notify the second program module of the selection of that first link. The second program module is operable in response to notifications from the first program module to select the informational data to be displayed from among a larger amount of informational data, and the second program module is further operable to store statistical data regarding the display of the selected informational data. This permits targeting of banner advertisements based upon the type of link (financial, news, sports, etc.) selected by the user.

In accordance with another aspect of the invention, there is provided a computer-readable memory for use by a computer to provide a user of the computer with an automatically-upgradeable software application. The computer readable memory comprises a non-volatile data storage device and a program that is separated into a plurality of program modules that are stored on the non-volatile data storage device. Some or all of the program modules have at least one version identifier associated with them. One of the program modules is operable upon execution to access the stored version identifier(s) and at least one updated version identifier from a server via a global public network such as the Internet. These updated version identifier(s) represent updated program modules accessible from a server via the public network. This program module is further operable to download one or more updated program modules when the

US 6,628,314 B1

5

stored version identifier and the updated version identifier are different, with the updated program module(s) replacing one or more of the program modules. In this way, software upgrades can be carried out automatically without any user action required. Also, upgrading can be accomplished without having to download and install the entire software package.

In accordance with another aspect of the invention, a method is provided for supplying demographically-targeted advertising to a computer user. The method includes the steps of:

- providing a server that is accessible via a computer network such as the Internet,
- permitting a computer user to access the server via the computer network,
- acquiring demographic information about the user (which includes information specifically provided by the user in response to a request for the demographic information),
- providing the user with download access to computer software that, when run on a computer, displays advertising content, records computer usage information concerning the user's utilization of the computer, and periodically requests additional advertising content,
- transferring a copy of the software to the computer in response to a download request by the user,
- providing a unique identifier to the computer, with the identifier uniquely identifying information sent over the computer network from the computer to the server, associating the unique identifier with demographic information in a database,
- selecting advertising content for transfer to the computer in accordance with the demographic information associated with the unique identifier,
- transferring the advertising content from the server to the computer for display by the program,
- periodically acquiring the unique identifier and the computer usage information recorded by the software from the computer via the computer network, and
- associating the computer usage information with the demographic information using the unique identifier.

In accordance with yet another aspect of the invention, there is provided a computer-readable memory for use by a computer to provide a user of the computer with targeted information. The memory comprises a non-volatile data storage device and a program stored thereon. The program is operable upon execution to display a window containing an information display region. The program is also operable to select and display informational data (such as a banner advertisement) in the information display region. The informational data comprises a plurality of display objects with at least some of the display objects each having a data set associated therewith. The data sets each include one or more of the following data items:

- a category identifier that indicates a category of information to which the associated display object relates, wherein the program is operable in response to receiving user input relating to one of the categories of information to display in the information display region a display object having an associated category identifier that relates to that one category of information;
- a software application identifier that identifies a software application that may be accessible to the user via the computer, wherein the program is operable in response to user selection of the software application to display

6

in the information display region a display object associated with the selected software application. These identifiers permit real time, reactively-targeted advertising since the program can respond to user interaction with the computer to determine whether the input relates to a particular category of information and, if so, can select advertising related to that category of information.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred exemplary embodiment of the present invention will hereinafter be described in conjunction with the appended drawings, wherein like designations denote like elements, and:

FIG. 1 is block diagram of a first embodiment of the invention depicting a client software application comprising two program modules located on a computer connected to a server by way of the Internet;

FIG. 2 is a block diagram of second embodiment that is a modified form of the that shown in FIG. 1;

FIG. 3 is a block diagram depicting further details regarding use of the server shown in FIG. 1;

FIG. 4 is a block diagram of a third embodiment of the invention depicting a client software application broken into a number of modules including a builder module responsible for upgrading and addition of any of the program modules;

FIG. 5 is an exemplary view of the graphical user interface (GUI) generated by the client software application of FIG. 4;

FIG. 5a is an exemplary view of a bookmark category window generated by the client software application of FIG. 4;

FIG. 6 is block diagram that provides additional detail regarding the client software application depicted in FIG. 4;

FIG. 7 depicts the structure of the banner database used by the client software application of FIG. 4;

FIG. 8 depicts a method for providing access to the client software application and for obtaining and utilizing demographic information regarding users of the software application;

FIG. 9 is a flow chart of the portion of the client software application of FIG. 4 that handles user login as well as acquisition of demographic information for new users of the application;

FIG. 10 is a flow chart depicting an overview of the core operation of the client software application of FIG. 4;

FIG. 11 is a flow chart of the processing of user input that is carried out by the client software application of FIG. 4;

FIG. 12 is a flow chart of the processing of key events that is carried out by the client software application of FIG. 4;

FIG. 13 is a flow chart of the process used by the builder module of FIG. 4 to upgrade different program modules or components used in the client software application; and

FIG. 14 is a flow chart of a alternative process that can be used by the builder module of FIG. 4 to upgrade program modules or components used in the client software application.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring first to FIG. 1, there is shown an overview of a client software application 10 comprising a graphical user interface (GUI) program module 12 and an advertising and data management (ADM) program module 14. Working

US 6,628,314 B1

7

together, these program modules act as a single software application that provides the computer user with a fully integrated interface to the other software applications loaded on the user's computer 18, as well as to information resources located on a private or public network, such as the Internet 20. Client application 10 may also include other executables, support files, and libraries that are used by program modules 12 and 14. In general, GUI module 12 contains the basic programming necessary to provide a user interface to the computer's software applications and operating system (e.g., Windows98 or WindowsNT), while ADM module 14 provides the basic management of the display and refreshing of advertising as well as the acquisition and reporting of computer usage information to an advertising and data management (ADM) server 22 via the Internet 20.

Computer 18 is a conventional personal computer, such as one that utilizes an Intel™ Pentium™ microprocessor. As is common, computer 18 includes RAM, a hard disk drive, a floppy drive, a CD-ROM or DVD drive, a mouse or other serial input device, a keyboard (all not shown), as well as a monitor 26. Computer 18 also includes a network adapter card through which it accesses the Internet. Alternatively, it can include a modem for accessing the Internet via a standard telephone line. As will be discussed below, client software application 10 is initially stored on a computer-readable memory (such as a hard drive) at server 22 and a copy is then downloaded and stored on the hard drive of computer 18 in response to a download request by the user.

As will be discussed in greater detail below in connection with FIGS. 5 and 6, GUI module 12 generates an application window 24 that is displayed on the computer monitor 26. This window is separated into a number of regions, one of which is a banner region 28 for advertisements or other messages processed by ADM module 14. The advertisements displayed in banner region 28 are display objects such as graphical images that are stored on the computer's hard drive or in other non-volatile memory as a file or multiple files which are collectively represented in FIG. 1 as banner storage 30. They are accessed as needed by ADM module 14 and displayed in banner region 28. Upon ADM module 14 determining that new advertising is needed, it accesses the Internet via an existing TCP/IP connection 32 and downloads new banners from ADM server 22. Periodically, computer usage information is sent to ADM server 22 for use in profiling the end user and better targeting future advertising to the end user. This computer usage information is stored on the end user's computer 18 in user data storage 34, which again can be the computer's hard drive or other non-volatile storage.

By separating out the advertising and end-user data management functions and providing them as a separate program, these functions can be changed easily by replacing the ADM module 14 without the necessity of downloading and installing an entire new version of the software. This update capability can be programmed into GUI module 12 (or, possibly, into ADM module 14) so that it periodically checks with server 22 for an updated ADM module 14 and, if found, downloads the new program and installs it as necessary. This can be done automatically without the client software application requiring any user input, if desired.

ADM module 14 can be downloaded as object code, in which case it can be executed as is and can be started by the GUI program 12 each time that program is run. Optionally, ADM module 14 can be written in byte code, such as Java™, or even in a suitable scripting or interpreted language. If desired, the execution engine needed for these latter types of programming can be provided originally as a part of the total

8

software application 10. Alternatively, existing execution engines, such as those found in Java™ and JavaScript™-enabled browsers, can be used to execute ADM module 14 upon call by GUI module 12. Moreover, if written in one of these latter programming languages, GUI module 12 or ADM module 14 can initiate operation of the browser (if not already running) and can direct the browser to ADM server 22 in which case the new version of ADM module 14 can be automatically downloaded and run by the browser.

Although ADM module 14 is shown in FIG. 1 as handling storage of the computer usage information and banner advertising, as well as display of the advertising and reporting of the computer usage information, it will be appreciated that most of these functions can be handled by GUI module 12, with ADM module 14 simply providing the basic logic and rules which govern the display and reporting functions. This is shown in FIG. 2. In this embodiment, GUI module 36 still reports events to ADM module 38 which, as in the system of FIG. 1, determines what action is to be taken. However, it is GUI module 36 that actually does the work, including accessing or storing data in banner storage 30 or user data storage 34, reporting computer usage information to ADM server 22, accessing new banner advertising from server 22 and, when available, downloading a new ADM module 38. One advantage of this separation of functions between GUI module 36 and ADM module 38 is that it permits ADM module 38 to be written as a streamlined program module that occupies a minimum amount of storage space so that the basic logic governing advertising processing can be easily and quickly upgraded by downloading a new ADM module 38.

Referring now to FIG. 3, ADM server 22 is accessible via the Internet by any of a number of remotely located client computers 40 on which client software application 10 is installed. This can include client computers that are connected directly to the Internet, as well as computers connected via private or other types of networks, such as a LAN 42. ADM server 22 has associated with it an Advertisement Database 44 and a User/Demographics Database 46. Ad Database 44 stores the banner advertising that is provided to the client computers 40 both initially when client application 10 is installed and thereafter periodically as the advertising needs to be replaced. As will be discussed in greater detail below, each advertisement is assigned to one of three priority levels (general, medium, or high) that are used in reactively targeting the banner advertisements. These assignments of the advertisements are stored along with the advertisements themselves in Ad Database 44. Periodically, new advertising can be added to Ad Database 44. Preferably, this is accomplished via the Internet with the new advertising being obtained from one or more Advertising Servers 50, which may be run by an advertising distribution organization or may simply be computers operated by the individual advertisers themselves.

User Database 46 stores the demographic information used in targeting the advertising downloaded to the individual client computers 40. As will be described below, when a user first accesses client application 10 for the purposes of downloading and installing the software, demographic data is obtained on the user and that information is then used to determine what advertising will be provided to that user. Whenever new advertising is required for a particular user, the relevant information from User Database 46 will be used to determine which advertisements should be downloaded to that user's computer.

In addition to advertising selection and distribution, ADM server 22 also handles the distribution of upgrades to client

US 6,628,314 B1

9

software application 10. In general, the upgrading process involves communication between ADM server 22 and the client computers 40 to determine what program modules are installed at the client computer and to compare those modules to the latest set 48 maintained at ADM server 22. As will be described in connection with FIGS. 4 and 13, this is preferably accomplished using a “blueprint” that contains an identifier (filename and version number) of each of the program modules used by client software application 10. Once it is determined that one or more program modules need to be updated, they are accessed at ADM server 22 and downloaded to the requesting client computer 40 and installed.

Turning now to FIG. 4, there is shown a third embodiment of the client software application. In this embodiment, the software application can have the same functionality of the first two embodiments, but is separated into a number of program modules that interact to provide this functionality. In particular, it includes a GUI module 52 and ADM module 54 as in the first two embodiments, but further includes a notes module 56, I/O module 58, login module 60, PDA module 62, builder module 64, and auxiliary module 66. Some of these additional modules, such as the notes module 56, provide added functionality not included in the modules of the FIGS. 1 and 2 embodiments. Other of these modules, such as I/O module 58, perform functions that were incorporated into the GUI and/or ADM modules of FIGS. 1 and 2.

Before describing the various modules in detail, reference is made to FIG. 5 which depicts a Windows™ version of the user interface provided by GUI module 52. The user interface comprises application window 24 separated into a number of regions. These regions include a pull-down menu 70, a set (toolbar) of menu icons 72, a URL text field 74, a toolbar containing application icons 76, a banner advertising region 78, and a toolbar containing bookmark category icons 80. While some of these regions provide unique commands and functions that will be described below, the programming used to generate the display in these regions and to enable interactivity with the items displayed within these regions is well within the level of skill in the art. Pull-down menu 70 contains the basic commands available to the user, including launching applications, accessing basic editing commands, changing the display of the user interface, adding and removing application and bookmark category icons, changing window views, and obtaining help. Menu icons 72 contain a number of icons that permit quick access to some of the more common commands contained in menu 70. URL field 74 is a conventional drop-down input box that can be used for entering URLs or path and file names of locally-stored web pages. Once a user has entered a web page location into this field and pressed Enter, GUI module 52 initiates operation of the user’s default browser and directs it to access and display the specified web page. Banner advertising region 78 is an information display region in which is displayed graphical images comprising advertising stored locally on the computer. These advertisements are replaced in response to various events including, in particular, user interaction with the computer. Application icons 76 provide single-click initiation of any programs accessible by the user’s computer. When client software application 10 is first installed, it initially builds this toolbar using the shortcuts existing on the computer’s Windows™ desktop. Thereafter, the user can customize this toolbar, either by dragging icons onto or off of the toolbar, or via a suitable command available under the “Tools” menu item. The client software application can be programmed to

10

automatically add or remove icons from this list when they are added or removed from the Windows™ desktop. Furthermore, the icons can be automatically organized by the program, either in alphabetical order or otherwise. The bookmark category icons 80 are each associated with a set of links related to a particular category of information, such as finance, news, or sports. By selecting one of the icons, a separate application window containing the related links is opened on the screen. This is shown in FIG. 5a. This window also includes a vertically-oriented toolbar containing bookmark category icons 80 so that the user can switch to other categories of links by clicking on the appropriate icon 80. The program is operable to respond to the user’s selection of any one of the links by accessing the selected web page using the default browser. As with the application icons 76, bookmark category icons 80 can be added or removed from the toolbar. Furthermore, additional links can be added to the categorized sets of links, whether by conventional drag and drop methods (i.e., dragging onto the bookmark category icons 80) or via menu commands.

To permit user customization, the toolbars containing application icons 76 and bookmark category icons 80 include a sidebar 82 that is initially positioned at the far left of the toolbar, as illustrated, and that can be moved by the user to a location between any two icons on the toolbar. Thereafter, icons to the left of the sidebar cannot be re-organized except by express action of the user. These toolbars also each include left and right arrow buttons 84 that shift the icons in the associated toolbar to the left and right, respectively. These arrow buttons will not affect any icons located to the left of sidebar 82. Each of the toolbars, including the pull-down menu toolbar, includes a collapse button 86 that serves to toggle the display of its associated toolbar. This permits users to collapse the display size of the graphical user interface and to hide those toolbars that the user does not wish to utilize often.

A final region of window 24 is a conventional linked icon 88, which can be used to direct the user’s default browser to the home page of the company that provided client software application 10. Also, window 24 can include another icon (not shown) that, when selected, accesses a local floppy or other non-volatile data storage device to retrieve various types of data. For example, a user may want to utilize client application 10 on different computers; for example, a laptop and home or office desktop computer. To prevent the user from having to separately customize each of the two user interfaces, GUI module 52 is operable to store the user’s customization settings and preferences on a floppy disk or other non-volatile storage. This disk can then be inserted into the other computer and, once the client application is executed, clicking on the same icon will cause the program to access the disk and to retrieve and apply the user’s customizations and preferences to the user interface.

In addition to the toolbar containing bookmark category icons 80, window 24 can also include a “home” or “local” toolbar (not shown) containing the same icons 80, but with the links associated with each category icon 80 being specific to the user’s local and regional interests. Thus, for each category of information, this permits the user to keep links to local web sites separate from their other links. In this way the user can, for example, keep links related to local high school sports separately from links for professional sports. When an icon on this “home” toolbar is selected, a window (not shown) separate from that shown in FIG. 5a can be opened or, alternatively, the FIG. 5a window itself can be used, with a button or other means being provided to allow the user to switch between the icons representing the

US 6,628,314 B1

11

“home” groups of links and the icons representing the other groups of links.

Referring now to FIGS. 4-6, the details of the various program components and modules that comprise client software application 10 will now be described. As discussed above, GUI module 52 provides the programming used to display application window 24 including all of its various regions on a computer monitor or display 26. It accesses user customizations and preferences from user data storage 34 via I/O module 58 and interfaces with the other program modules. The user interface provided by GUI module 52 is implemented using a number of program components written in ActiveX™. These components include a toolbar component 90, a URL text field component 92, a drag button component 94, a drag and direct component 96, a collapsible menu component 98, a collapsible toolbar component 100, a user profile access component 102, and an advertising banner component 104.

Toolbar component 90 contains the programming code used to display and manage the applications icons toolbar 76 and the bookmarks categories toolbar 80. This includes the programming that generates the slidebars 82 and left/right buttons 84. This component interfaces with drag button component 94 which contains the programming that generates the various toolbar buttons that are represented by the different icons 76 and 80. Toolbar component 90 also interfaces with drag and direct component 96 which allows the user to customize the toolbars by shifting the icon buttons left or right on the toolbars, as well as drag and drop capabilities to add buttons to or remove buttons from the toolbars. URL field component 92 provides the URL text field 74 that permits direct user input of URL's. Collapsible menu component 98 contains the programming that generates and provides functionality to the pull-down menu 70. Similarly, collapsible toolbar component 100 is used to generate the toolbar containing the menu icons 72. Components 98 and 100 can be derived from the main toolbar component 90 and can function like any other toolbar, except that they are collapsible. User profile access component 102 contains the programming used to access the computer's floppy disk drive (as well as any other source) to read or write the user's customizations and preferences of the user interface. Banner component 104 contains the programming used to access and display an advertising banner specified by ADM module 54. In addition to the drag and drop capabilities discussed above, GUI module 52 can also include the programming necessary to permit dragging of links onto category icons to add them to the associated set of links, as well as dragging of data files (e.g., documents) onto the application icons to initiate execution of the selected application using the selected data file.

ADM module 54 includes a key event component 108, a timer/display component 110, a flag alert component 112, and an error handling component 114. These components are preferably written in ActiveX™ or Java™. User interaction with the computer, whether with the client software application itself or with other applications or the operating system, is monitored by GUI module 52 and reported to key event component 108. As will be understood by those skilled in the art, the detection of user input to other programs and to the operating system itself can be implemented under Windows™ using system hooks. Key event component 108 determines whether the user interaction constitutes a key event; that is, whether a change in displayed banners should be made in response to the user input. If so, it informs timer/display component 110 which contains the programming that determines which banner should be displayed and

12

what computer usage information should be stored for later reporting to ADM server 22. This component also includes a timer that periodically changes the advertisement displayed in banner region 78 in the absence of any user input. The selection of banners will be further described below in connection with FIG. 7.

Once a group of banners have been displayed their allotted number of times, timer/display component 110 notifies flag alert component 112, which sets a new banner flag. This flag is checked periodically and if set, ADM server 22 is accessed to download new banner advertising. If desired, flag alert component 112 can also maintain other flags for use by the system to record the state of various events. For example, it can include a flag that indicates whether the current execution of client software application 10 is the first execution following installation of the software. If so, a special introductory screen could be displayed. Other such uses will become apparent to those skilled in the art. Error handling and messaging component 114 is used to handle error conditions such as, for example, where a user has uninstalled a software application off the computer, but attempts to execute the uninstalled application from an application icon 76 still residing on the applications toolbar. This component can intercept the error message generated by the operating system and take appropriate action such as, for example, informing the user that the application cannot be located and asking whether the user wishes the application icon to be removed from the toolbar.

As mentioned above, client software application 10 monitors the user's interaction with applications other than itself using system hooks. As will be appreciated, this permits the client software application to alter the normal response seen by the user to certain types of interactions with the computer. For example, GUI module 52 preferably monitors user action and, upon detecting that the user has initiated execution of a browser application, whether via an application icon 76 or directly via the computer's operating system itself, GUI module 52 can override the browser's default home page setting and redirect it to another web site. Preferably, the user is queried via a pop-up dialog box prior to redirection to ascertain whether he or she objects to starting the browser at some web site other than the default home page. This can be used as an additional means of exposing the user to advertising while providing the user with some variety in the use of their browser, since they are not limited to always seeing the same site upon startup of the browser. Other such uses of this feature will be apparent to those skilled in the art.

Notes module 56 provides messaging capabilities not only for personal use by the user, but also for use among different users. From the user's standpoint, the notes themselves comprise small pop-up windows containing short messages or reminders. These notes can be associated with certain events. For example, the user could set up a personal note that pops up at the end of the day when the user goes to exit the application. Alternatively, one user could send another user a note related to sports and could set that note to only pop-up when the receiver either accesses the sports bookmark category icon 80 or accesses a sports-related web site. The notes functions (e.g., creating a new note, sending a note, etc.) can be accessed via Tools under the pull-down menu 70. Notes sent between different users connected to the Internet is by way of ADM server 22, which acts as a messaging server, identifying individual users (whether senders or receivers) by way of their unique ID and handling the receipt and distribution of the notes.

Notes module 56 includes a display component 116, a logic component 118, a registration component 120, and a

US 6,628,314 B1

13

send/receive component 122, all of which can be written in ActiveX™ or Java™. The notes display component 116 contains the programming responsible for the actual display of the pop-up notes on the monitor. The notes logic component 118 is responsible for the logical processing of the notes; for example, determining when or under what conditions a note will be displayed. Registration component 120 handles registration of the client software application with the messaging server process provided by ADM server 22. The send/receive component interfaces with I/O module 58 and is responsible for the actual transmission and reception of notes over the Internet.

I/O Module 58 is used as the interface between the various program modules and banner storage 30, user data storage 34, the Internet 20, and, if connected, a printer (not shown). It includes a reporting and printing component 124, a streams component 126, and a file I/O component 128. These components can all be written in ActiveX™ or Java™. Reporting and printing component 124 contains the programming code used to properly format and direct data to its proper output device (e.g., a printer, log file, etc.). The streams component 126 is used to manage the input and output functions which establish and provide data transmissions between components and objects. It is this component that is used to access the Internet via TCP/IP and can be used with other communications protocols, such as RMI and COM. The file I/O component 128 is used to manipulate stored files, including those used in the banner data storage 30 and user data storage 34.

Login module 60 (FIG. 4) comprises an ActiveX™ or Java™ login component which includes the programming that provides the user login and password validation features. If desired, this module can also include a security component that provides encryption of data transmitted over the Internet. PDA module 62 is an ActiveX™ or Java™ component that can be used to handle importing and exporting of user data between the client software application and the formats needed for use with a personal digital assistant. Also, this module can be used for interfacing the client software application with the user's current personal information management software, such as Outlook™, Lotus Notes™, or Netscape™ mail. The security module can also include an import/export wizard for use by the user in converting between formats.

Builder module 64 interfaces with all of the other modules and contains the programming used to upgrade individual components of the software application from time to time. As with most of the other modules, it can be written in ActiveX™ or Java™. For purposes of upgrading components, each component has associated with it a version identifier that comprises a version name and version number, with the version name simply being the filename of the component or module. Builder module 64 is operable to determine the version name and number for each of the components currently installed on the client computer and to generate from that a current blueprint of the components. Then, the next time an Internet connection is available, the builder component can access ADM server 22 and download from it an upgraded blueprint. The builder module then compares these blueprints to determine whether the client software application installed on the computer is the most current version available. If not, the builder, having both blueprints, can determine specifically which new components it needs. Upgrading of existing components is typically accomplished simply by overwriting the existing files and making the appropriate entries into the Windows™ Registry. At the server side, adding new components to the

14

application simply requires creating the new component and upgrading the existing components to work with the new component, followed by adding the new and revised components to the upgraded blueprint. Then, the next time the server is access by the builder module, it will download the new and revised components.

This upgrading process is implemented automatically by the client software application without requiring any user input or initiation of the process. Also, by modularizing the application in the manner described above, bug fixes and upgrading of features can be achieved without requiring downloading and installation of the entire software application. This is especially useful for distribution of software via the Internet, since software applications typically require anywhere from several Megabytes to tens of Megabytes of disk space and the downloading of such large files can be burdensome.

It may be desirable or necessary from time to time to upgrade the builder module 64 itself so that it can evolve and provide new features not currently anticipated. For this purpose, auxiliary module 66 is provided. Upon builder module 64 determining from the blueprints that it needs to be upgraded itself, it turns over control to auxiliary module 66 and then terminates its execution so that it may be overwritten with the new builder module. Auxiliary module 66 then handles downloading and installation of the new builder module and other components.

As will be appreciated by those skilled in the art, builder module 64 or any of the other modules can have their own set of module commands which they use to perform particular functions. These module commands can be used by other modules to access or implement functions provided by that module. Additional module commands and, thus, additional functionality, can be added simply by creating upgraded modules that include the new module commands and using builder module 64 to upgrade to the new modules in accordance with the procedures described herein.

Referring now to FIG. 7, the details of the selection and use of banner advertising will now be described. In general, banners are displayed either in response to some user action (input) or, in the absence of user input, are displayed periodically at timed intervals. The client software application monitors the user's inputs to the computer and, when possible, targets the banner advertising displayed so that it relates to the what the user is doing.

Preferably, the banner advertisements are stored as graphical images on the client computer's hard drive and are replaced once they have been displayed a certain number of times. As mentioned above, this is accomplished by downloading new banner advertisements from ADM server 22. To avoid running out of banners before new ones can be downloaded from ADM server 22, client software application 10 maintains a plurality of sets of locally stored banners and, at any one time, only displays banners contained in one of the sets. Then, when the banners in that set have all been displayed the allotted number of times, the next set of banners is used with the old set being replaced the next time that server 22 is accessed.

A banner database 130 is stored on the client computer's hard drive along with the image files themselves. This database contains information that is used by timer/display component 110 to determine when the banner should be displayed. In the representation of banner database 130 shown in FIG. 7, each row is a data set that is associated with a different one of the banners. The columns represent individual data items within each data set. The data for each

US 6,628,314 B1

15

banner includes the filename of the image file, a destination link, one or more associated category identifiers, one or more associated trigger links, one or more associated programs, and a priority level. The destination link is (typically) the URL of the web site to which the default browser will be directed if the user clicks on the banner while it is displayed. The category identifiers specify those categories to which the banner relates and can correspond exactly to the categories used in connection with the bookmark category icons 80 discussed above in connection with FIG. 5. For example, an advertisement for a securities brokerage would be related to finance and possibly business. By associating those category identifiers with the banner in database 130, ADM module 54 will be able to determine the proper time for display of the brokerage advertisement. The associated trigger links specify locations for which the associated banner should be displayed when one of the specified sites are accessed. In the first example given in FIG. 7, if the user were to direct his or her browser to www.lotus.com/123, ADM module 54 would display the banner01.gif image. Where multiple banners are associated with the same link, ADM module 54 determines which of the banners should be selected based upon another criteria such as number of times each banner has previously been displayed. The associated programs column is similar in that execution of one of the specified applications (rather than a visit to a web site) will result in an associated banner being displayed. Finally, the priority level is used to determine the specificity of the targeting of the advertisements.

More specifically, ADM module 54 is programmed to select and display banners at any one of three different levels of processing. The first is the general level, which is the default priority level at which the processing is set when the client software application is first executed. In this mode, only banners having a general priority level will be displayed. The second level is the medium processing level, in which both medium and general banners are displayed, but at a weighting that favors the medium banners. Preferably, when operating in this mode, only one general priority level banner is displayed for every three medium level banners. Similarly, the third level is the high level at which high, medium, and general banners are displayed, with ten high priority level banners being displayed for every three medium level banners and for every one general level banners. The processing level at any one time is determined by the user's actions. In particular, when the user begins execution of an application or selects one of the bookmark category icons 80, the processing level is set to medium so that no high level banners will be used for display. When the user selects a link, the processing level changes to high at which point all banners are candidates for display, with the high priority level banners being given favoritism in the 10-3-1 ratio mentioned above. This ratio can be adjustable by ADM module 54, if desired.

It will be appreciated that other data items for the banners can be included in database 130. For example, each banner can have associated with it a maximum number of permitted displays, with this number being decremented each time that the banner is displayed. This allows different advertisements differing amounts of exposure. Similarly, each banner can have associated with it a weighting or frequency that is used by ADM module 54 to determine how often the banner should be displayed relative to other banners at the same priority level. A "display first" property can also be provided for any particular banner that indicates that it should be displayed before others at its same priority level, with timer/display component 110 providing the programming

16

needed to insure that only one such banner at each priority level has this property set. Apart from the category identifiers, each banner can also have a number of keywords associated with it and ADM module 54 can be programmed to examine the web pages visited by the user to determine if any of those keywords are present, whether they be located in the web page as META TAGs or simply contained in the text of the page. If so, one of the banners associated with the located keyword could be displayed.

As will be apparent to those skilled in the art, client software application 10, acting in conjunction with ADM server 22, provides a two-tiered approach to targeted advertising. The first tier is the initial selection of banners to be downloaded to the user based upon the user's demographic information. The second tier is the reactive targeting of the advertisements based upon user interaction with the computer. Moreover, since client software application 10 communicates with server 22 from time to time and can report back computer usage information as well as information concerning the display of the banners, this information can be associated with the user's demographic information (by way of their unique ID) at the server and then used by the advertisers to help them better understand the consuming public.

As will be appreciated by those skilled in the art, the reactive targeting provided by client software application 10 is handled in real time, rather than simply as a part of building a set of advertisements for later display to the user. This permits the display of advertising that is relevant to what the user is doing at any particular time. Thus, if the user is using the computer to search for information on stocks, then client software application 10 can detect this (whether by recognizing the web site being accessed, the keywords used in the web pages being accessed, the program being executed, or some other aspect of the user's search) and can display an advertisement that is relevant to this topic, whether it be for a stock brokerage, a stock exchange, an investment group, or some other organization. Furthermore, for user computers that enjoy a full time connection to the Internet, the reactive targeting can be used to access a specific advertisement over the Internet, rather than from a pre-stored banner from banner storage 30. This can be accomplished by replacing the local image filenames in the first column of banner database 130 with an Internet address of a specific image file. Alternatively, the user's actions that are used to select an advertisement via banner database 130 can be sent to ADM server 22 or some other advertising server as posted form data, with the server using the data to select and download an appropriate advertisement. This permits real time targeting of advertising while expanding the available pool of advertisements without having to previously download the complete set of advertisements to the user's computer.

Referring now to FIG. 8, the process for providing access to the client software application and for obtaining and utilizing demographic information regarding the user will now be described. As will be appreciated, the software download and data gathering process of FIG. 8 can be implemented by a suitable server program residing on ADM server 22. As indicated at blocks 132 and 134, in response to server 22 receiving a download request from a user, the server sends a form to the user and then waits for the completed form to be posted back to the server. The form can include a number of required fields that provide the minimum data needed to generate a proper demographic profile of the user. Once server 22 has received the completed form, a check is made to determine whether all of the

US 6,628,314 B1

17

required fields have been completed, as indicated at block 136. This check can include a certain amount of validity checking of the data. For example, if the user is required to specify the city and state in which they live, a check could be made to determine whether the city and state reported by the user actually exists. Similarly, a reported area code could be checked to determine its validity. If required information is missing or invalid, flow moves to block 138 where the server resends the form with a request for correction. As is known, this can include an identification of the particular required data that was missing or invalid. Once server 22 receives a correctly completed form, flow moves to block 140 where server 22 assigns a unique ID to the user and then stores that ID along with the received demographic data, as indicated at block 142. As discussed above in connection with FIG. 3, this data is stored in the user/demographics data base 46. Then, an initial set of banner advertisements and links are selected based upon the user's zip code, indicated at block 144. The links are used to provide an initial set of links for each of the bookmark categories represented by icons 80. Thereafter, client software application 10 is downloaded to the user's computer for installation by the user, as indicated at block 146. Preferably, the client software application is packaged as a single, self-extracting ZIP file and includes an installation program that handles installation of the program and all of its components into proper directories, as well as making the necessary entries into the Windows™ Registry.

The user ID that is stored along with the demographic data is used to anonymously identify the user for the purpose of demographically targeting advertising to that user. This can be accomplished by assigning the user ID to the particular copy of the client software application downloaded by the user. Alternatively, the user ID can be included in a cookie placed by server 22 on the user's computer 18 and this cookie can be accessed by server 22 each time computer usage information is sent to server 22 so that the ID can be associated with the computer usage information. In the illustrated embodiment, the user ID is associated with a user login that is required each time the client software application is executed. By having the user login to the application, it can identify which demographics are associated with this particular user. Also, the provision of a user login allows the client software application to be utilized by multiple users, while permitting different demographically targeted advertising to be displayed for each user. This will now be described in connection with FIG. 9.

As shown in FIG. 9, upon execution of the client software application 10, a login and password input box is displayed. This is shown at block 148. Once the user has entered a login name, a check is made at block 150 to determine whether the user name is new. If not, a check is made at block 152 to determine whether the password provided for the recognized login name is correct. If not, flow returns to block 148 where the login box is again displayed. If the password is correct, flow moves to block 154 where the application accesses the user's set of preferences and customizations for the display of the graphical user interface. The application also accesses the banner database and various bookmark categories for that user which, as described above, contains for each category of information a number of links to different information resources. Flow then moves to block 156 where the graphical user interface is displayed along with a first banner. The login names and associated passwords can be stored in the user data storage 34. Similarly, the user preferences, categorized lists of bookmarks, and banner database can be stored in user data storage 34.

18

If, back at block 150, the login name is determined to be new, the user can be queried as to whether they would like to set up a new account, as indicated at block 158. If not, then flow returns to block 148 where the login screen is again displayed. If a new account is desired, flow moves to block 160 where the application requests various demographic data, which can be the same data requested of the user who originally downloaded the application from server 22. At block 162 a check is made to determine whether all required demographic data was provided. If not, flow returns to block 160 to again request the required data. Once all required information has been provided, flow moves to block 164 where the application reports demographic data back to server 22, receives an assigned ID from the server, and stores the new user data at the client computer in user data storage 34. Flow then moves to block 166 where default preferences and bookmark lists are accessed and assigned to the new user. Flow then moves to block 156 where the graphical user interface is displayed, at which point the user can begin normal use of the application.

If desired, all user-specific information, including logins, password, demographic data, assigned ID, preferences, banner database, and bookmark lists can be stored together as a separate file and treated as a separate user object. This file can be both stored locally on client computer 40 and reported back to server 22. Moreover, this single file can then be used to transfer the user specific data between different computers upon which the application resides. By storing the demographic data at the client itself, demographic targeting of advertising can be accomplished if desired by client software application 10 itself. Furthermore, in situations in which the computer operating system requests a login as a part of boot-up of the computer, or in networked environments where a login at the computer is required for network access, client software application 10 can use the identification of the user provided by these logins rather than requiring a separate login upon execution of the application itself. This allows the client software application to determine who is using the computer without having to request a separate user login.

Turning now to FIG. 10, there is shown an overview of the core operation of client software application 10. The first step is at block 168 where a check is made to determine whether access to ADM server 22 is needed. Access may be needed to report computer usage information or to download new banner advertising, for example. If no access is currently needed, flow moves to block 170 where a check is made to determine if there is any user input to the computer. If not, flow moves to block 172 where a check is made to determine whether the timer operated by timer/display component 110 has expired. If not, no action is taken and flow returns to block 170 to again check for user interaction with the computer. If the timer has expired, flow moves to block 174 for selection and display of a suitable banner. If, at block 170 user input was detected, flow moves to block 176 where the user input is processed. Flow also moves to block 178 where a check is made to determine whether the user interaction constitutes a key event. If not, flow returns to block 168 and the process repeats. If a key event is detected, then flow moves to block 174 where the key event is processed.

If, at block 168 it was determined that access to ADM server 22 is needed, flow moves to block 180 where a check is made to determine whether an Internet connection is available to the client computer. If no connection is available, the server cannot be accessed at this time and flow therefore moves to block 170. If an Internet connection is

US 6,628,314 B1

19

available, flow moves to block 182 where the current computer usage information is reported to ADM server 22. Then, if necessary, the client software application downloads new banners, as indicated at block 184. Flow then moves to block 186 where the new banner flag is reset along with any flags used in reporting of computer usage information. At block 188 a check is then made to determine whether any of the components of software application 10 need to be upgraded. If not, flow moves to block 170 to look for user interaction. If a newer version of one or more components is available, flow moves to block 190 where the builder routine is executed.

Referring now to FIG. 11, the processing of user input represented by block 176 of FIG. 10 will now be described. This processing begins at block 192 where a check is made to determine whether a user has selected a banner by, for example, a mouse click on the banner itself. If so, flow moves to block 194 where the URL associated with the selected banner is accessed and the user's default browser used to access the site specified by that URL. This process then ends with the flow returning to block 168 of FIG. 10. If at block 192, a banner has not been selected, flow drops down to block 196 where it is determined whether a shortcut or application has been selected. This includes any of the application icons 76 on the application's graphical user interface itself or a shortcut or application selected from the Windows™ desktop. If so, flow moves to block 198 where the priority is set to medium following which flow moves to block 200 where the shortcut or application is executed or otherwise processed in accordance with the normal operation of the operating system. If at block 196 it was determined that no shortcut or application was selected, then flow moves to block 202 where a check is made to determine whether one of the bookmark category icons 80 was selected. If so, flow moves to block 204 where the priority is set to medium, following which flow moves to block 206 where a second application window is opened displaying the links associated with the selected category. If at block 202 no category was selected, then flow moves to block 208 where a check is made to determine whether a specific bookmark or link was selected by the user. If so, flow moves to block 210 where the priority is set to high, following which the default browser is run and the web page specified by the selected link is accessed. If at block 208 no link was selected by the user, flow drops down to block 214 where a check is made to determine whether the user has entered a URL or other web page address into URL text field 74. If so, flow moves to block 216 where the priority is again set to high following which the default browser is opened and the specified link is accessed, as indicated at block 218. If at block 214 no URL was inputted, then no further action is taken by client software application 10.

Turning now to FIG. 12, the processing of key events represented by block 174 of FIG. 10 will now be described. As indicated at block 220, the first step is to determine the current priority level which, as discussed in connection with FIG. 11 may have been set from the default general priority level to either medium or high. Flow then moves to block 222 where, in the case of the priority being either medium or high, the selected category of information (finance, news, sports, etc.) is determined so that only those banners associated with that category can be selected as candidates for display. Then, at block 224, using the determined category a particular banner is selected and displayed in the banner region 78. As previously discussed, in addition to an associated category, the banners can also be selected based on associated links and/or programs in the event, for example,

20

that the user accesses a website that is listed in the banner database 130. Flow then moves to block 226 where a record is made of the occurrence of the event, the display of the banner, and the time that the event occurred. This computer usage information can now be reported back to ADM server 22 or a reporting flag can be set so that this information can be reported back the next time that the server is accessible. Flow then moves to block 228 where the banner count associated with the displayed banner is incremented by one. Then, at block 230, a check is made to determine whether the current group of banners has expired, based on their banner counts. If not, the key event processing is finished and flow then returns to block 168 of FIG. 10. If the banners have expired, then flow moves to block 232 where the next available set of locally stored banners is utilized for display purposes and the flag alert component 112 is notified so that it can set the new banner flag, as indicated at block 234. Processing then returns to block 168 of FIG. 10.

Referring now to FIG. 13, a first implementation of the builder routine 190 of FIG. 10 will now be described. The process begins at block 236 where the builder component 64 accesses version numbers for each component in the client software application. Flow then moves to block 238 where, using this information, builder component 64 generates a current blueprint. Then, at block 240, the builder component accesses an updated blueprint from ADM server 22. At block 242, a check is made to determine whether the updated blueprint is the same as the current blueprint. If so, the client computer has the upgraded version and no upgrading is necessary, as indicated at block 244. Flow then returns to block 168 of FIG. 10. If, at block 242, the updated blueprint is different from the current blueprint, flow moves to block 246 where the builder module determines which components are new or need upgrading. Flow then moves to block 248 where a check is made to determine whether the builder module itself needs to be upgraded. If not, flow moves to block 250 where the new or upgraded components are downloaded from server 22 and installed. If an upgraded builder module is needed, then flow moves from block 248 to block 252 where control is passed from the builder module to auxiliary module 66, following which flow moves to block 254 where execution of the builder module is terminated so that it may be overwritten with the new builder module. Flow then continues to block 250 where the builder module and other upgraded components are downloaded and installed under control of auxiliary module 66. Flow then returns to block 168 of FIG. 10.

Referring now to FIG. 14, another embodiment of builder routine 190 of FIG. 10 will now be described. In this embodiment, the builder module does not determine the current names and version numbers of all the modules that make up client software application 10, but rather uses a version ID associated with the application to determine whether upgrading of any of the components is necessary. The process starts at block 256 where the builder module accesses an updated blueprint ID from ADM server 22. Then, at block 258, a check is made to determine whether the updated ID is the same as the current version ID. If so, then no upgrading of components is necessary as indicated at block 260 and flow returns to block 168 of FIG. 10. If the ID's are not the same, flow moves to block 262 where the builder module sends the current version ID back to ADM server 22. This current ID is used by ADM server 22 to determine which components need to be downloaded and installed at the client computer so that it has the most recent version. Then, at block 264, the builder module downloads and installs the updated components, following which the

US 6,628,314 B1

21

process returns to block 168 of FIG. 10. As with the process of FIG. 13, auxiliary module 66 can be used in the event of upgrading of builder module 64 itself. As will be appreciated by those skilled in the art, once the new components have been downloaded and installed, whether by the process of FIG. 13 or FIG. 14, restarting of the computer may be necessary.

It will thus be apparent that there has been provided in accordance with the present invention a method and apparatus for providing an automatically upgradeable graphical user interface with targeted advertising which achieves the aims and advantages specified herein. It will of course be understood that the foregoing description is of a preferred exemplary embodiment of the invention and that the invention is not limited to the specific embodiment shown. Various changes and modifications will become apparent to those skilled in the art. For example, although the advertising features described herein have been disclosed in connection with client software application 10, it will be appreciated that these features can be incorporated into any of a number of other types of software applications and can even be incorporated into the operating system's user interface itself. Other features of client software application 10 can be incorporated into and made an integral part of other software applications and operating systems. Also, rather than downloading the client software application via the Internet or some other network, it could be installed on the user's computer from a CDROM or DVD, with the new user login process of FIG. 9 being used to acquire demographic data on all users of the software. All such variations and modifications are intended to come within the scope of the appended claims.

I claim:

1. A computer-readable memory for use by a computer to provide a user of the computer with an automatically-upgradeable software application, comprising:

a non-volatile data storage device;

a program stored on said non-volatile data storage device in a computer-readable format, said program comprising a plurality of program modules;

at least one version identifier associated with one or more of said program modules, said version identifier(s) being stored on said non-volatile storage device;

wherein one of said program modules is operable upon execution to access said stored version identifier(s) and at least one updated version identifier from a server via a global public network, with said updated version identifier(s) representing one or more updated program modules accessible from a server via the public network, wherein said one program module is further operable to download one or more updated program modules when said stored version identifier and said updated version identifier are different, with said updated program module(s) replacing one or more of said program modules stored on said data storage device, and, further, wherein said one program module is operable to store said updated version identifier.

2. A computer-readable memory as defined in claim 1, wherein said one program module is operable when executed by a microprocessor to compare said stored version identifier with said updated version identifier and, if said stored and updated version identifiers are different, to send a download request to a server via the public network.

3. A computer-readable memory as defined in claim 1, wherein at least some of said program modules each have a unique version identifier associated therewith and wherein

22

said one program module is operable to generate a current blueprint of said program modules by accessing each of said unique version identifiers.

4. A computer-readable memory as defined in claim 3, wherein said one program module is operable to receive from the server an updated blueprint containing updated version identifiers and, wherein said one program module is further operable to compare said current and updated blueprints and to download one or more updated program modules if any of the updated version identifiers from the updated blueprint do not match a unique version identifier from the current blueprint.

5. A computer-readable memory as defined in claim 3, wherein said one program module is operable to send the current blueprint to a server via the public network.

6. A computer-readable memory as defined in claim 1, wherein said version identifiers comprise a module identifier and a module version number.

7. A computer-readable memory as defined in claim 6, wherein said one program module has a version identifier associated therewith and wherein said one program module is operable to upgrade itself when its version identifier does not match its associated updated version number.

8. A computer-readable memory as defined in claim 7, wherein said one program module is written in a programming language and has a number of module commands associated therewith, each of said module commands being used by said one program module to invoke one or more instructions in said programming language, wherein said one program module is operable to perform a function in response to receiving one or more of said module commands, whereby additional module commands can be added to said one program module by automatically upgrading said one module command via the public network.

9. A computer-readable memory as defined in claim 8, wherein said one program module is stored in a file and is operable to upgrade itself by passing control to an auxiliary module, terminating its execution, and thereafter being replaced by an updated version downloaded from a server.

10. A computer-readable memory as defined in claim 6, wherein each of said modules comprise a separate computer file and wherein said module identifier includes a filename.

11. A method of providing demographically-targeted advertising to a computer user, comprising the steps of:

providing a server that is accessible via a computer network,

permitting a computer user to access said server via said computer network,

acquiring demographic information about the user, said demographic information including information specifically provided by the user in response to a request for said demographic information,

providing the user with download access to computer software that, when run on a computer, displays advertising content, records computer usage information concerning the user's utilization of the computer, and periodically requests additional advertising content, transferring a copy of said software to the computer in response to a download request by the user,

providing a unique identifier to the computer, wherein said identifier uniquely identifies information sent over said computer network from the computer to said server,

associating said unique identifier with demographic information in a database,

selecting advertising content for transfer to the computer in accordance with the demographic information associated with said unique identifier;

US 6,628,314 B1

23

transferring said advertising content from said server to the computer for display by said program,
periodically acquiring said unique identifier and said computer usage information recorded by said software from the computer via said computer network, and
associating said computer usage information with said demographic information using said unique identifier.
12. The method of claim 11, further comprising the step of periodically selecting and transferring additional advertising content to the computer in response to a request therefor.
13. The method of claim 11, wherein said computer network is a publicly-accessible global computer network.
14. The method of claim 11, wherein said unique identifier identifies said copy of said software from among other copies of said software.
15. The method of claim 11, wherein said providing a unique identifier step further comprises storing a cookie on the computer.
16. The method of claim 11, wherein said providing steps further comprise providing said computer software which, when run on the computer, requires a user login to use said software and associates a different unique identifier with each of a number of valid users of said software.
17. The method of claim 11, wherein said providing steps further comprise providing said computer software which, when run on the computer, requires a user login to use said software and uses the user login to associate one of a number

24

of unique identifiers with the computer usage information recorded by said software.
18. The method of claim 11, wherein said computer usage information includes data regarding information resources accessed by the user over the global computer network.
19. The method of claim 11, wherein said computer usage information includes data regarding software applications run by the user on the computer.
20. The method of claim 11, wherein said acquiring step further comprises requesting said demographic information in response to a request from the user to download said software and receiving said demographic information from the user prior to providing the user with access to said software.
21. The method of claim 11, wherein said step of providing download access further comprises examining said demographic information to determine that said demographic information includes certain required information and, upon determining that said demographic information includes said required information, providing the user with said download access to said software.
22. The method of claim 21, further comprising the step of limiting said required information to demographic information, whereby the user is permitted anonymous download access to said software and the server is provided demographically-relatable computer usage information.

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